

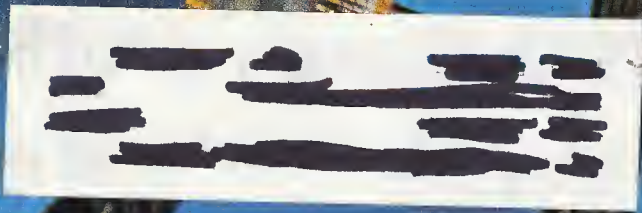
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# PROFILES

The Magazine for Kaypro Users  
November 1986

**Online with CompuServe:  
The Kaypro connection**

**Software for the  
individual investor**



**Holiday gift guide**



## The Source for CP/M

We've always said "We'll stick with you", and we continue to. Most products below are available in CP/M and MS-DOS

### Thoughtline - Creativity Amplifier

**Thoughtline** - Spite Software's outline processor has hundreds of fans and great reviews. It's time for you to experience software that helps you be more creative and better organized.

**Thoughtline** helps you get your ideas out and into the computer, then helps you organize and expand them. Create entire books if you like: just continue typing and **Thoughtline** switches into its word processor mode.

Version 2.1 is complete. Among other features it reads WordStar and other text files into outline format under your control. No other outline processor anywhere has more powerful features! Two future upgrades are free and our 60 day guarantee lets you experience this indispensable tool without risk of dissatisfaction or obsolescence. Order now! \$69.95 CP/M MS-DOS

### Word Finder - Pop-up Thesaurus In CP/M!

Borland's Turbo lightning is a major success in the MS-DOS world, software that made us diehard CP/M users a bit envious - but no longer. Word Finder brings the same capability to CP/M, a 90,000 synonym thesaurus that pops up within WordStar. To find an alternate word just position the cursor on the target word, touch the escape twice and a list of synonyms pops up. Select the one you want, press a key and the new word replaces the old one. You've dreamed about this, now own it. \$69.95 CP/M

**SuperDex** - document indexer. Multi-level or automatic. Any format -- Chicago book of style is default. CP/M only

**Writer's Aide** - Seven essential WordStar Utilities. Ascii to WS, Wordcount, Line number, Word Freq, others

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**Bibliography** - Correlates citations to WordStar - \$59.95

**Spell** - Smallest, Fastest spelling checker - \$49.95

**Notebook** - Writer's Database - CP/M only - \$69.95

**Number** - Outline numbering-maintains correct sequence after edit, seven styles - \$59.95

**Footnote** - Automatic reference and format. Maintains correct footnote position and cross reference even after edits - \$59.95

**Printmaster** - No artistic skill needed to design and print cards, banners, certificates, scheduling calendars - enhanced with great graphics and borders. Hundreds of designs, borders and fonts to choose from. Works with most dot matrix printers.

CP/M-\$49.95, MS-DOS - \$59.95

**Art Gallery 1** - more graphics, borders and fonts - \$39.95

**Art Gallery II** - still more graphics - \$29.95

**The New Presto!** even better than before - handy desktop accessories like Sidekick, but in CP/M. Now includes access to frequently used CP/M commands and redefinition of arrow and function keys - from within other programs! - \$36.95

**Media Master** - latest version format translator - \$36.95

**Rembrandt** - the graphics program for CP/M - \$39.95

**Version** for pre-graphic kaypros - includes chip - \$44.95

**Twist and Shout** - Sideways printer for big spreadsheets, Banner printer - eight inch letters - both only - \$34.95

**Smartkey BEST PRICE** - Newest version, rated best key redefinition software in many reviews.- \$44.95 (\$59.95 MS-DOS) with **SmartPrint** - \$54.95 (\$79.95 MS-DOS)

## Modems & MS-DOS

### Super Modem Deal

Our new Turbolink 1200 is only \$179.95! - a superb quality, completely Hayes compatible modem with speaker, all indicator LEDs, a 1 year warranty, telephone cable and power supply. Our **Instant Use** package adds serial cable, telecom software (The Microlink), \$25 free time on BRS/BRKTHRU information service, and 30 days free use of the Official Airlines Guide discount flight booking system - just \$199.95! Available for CP/M MS-DOS and MacIntosh.

### MS-DOS Corner - Products Below Are MS-DOS Only

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**Generic CAD only** - \$99.95

**Dot Plot only** - \$24.95

**AutoConvert** - Generic Cad to AutoCad & back - \$24.95

**Logitech Mouse** - \$99 W/MousePlus software- \$119.00

**Acceler8/16** - Speed up your PC, make it Kaypro compatible. Emulation software, media master and chip. - \$99.95

**SweepOP** - Call up Sweep's capabilities (and more) from within MS-DOS programs. Best Unerase in DOS. - \$49.95

**Snoop** - See what makes software tick. This intelligent disassembler automatically comments code and labels jump targets as it works. Makes assembly language easy. - \$49.95

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More than 50 products for Kaypro and CP/M computers

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Stick-on WordStar label keys ☐



# Holiday Spirit for Your Kaypro

This holiday season, give your Kaypro computer a gift that both of you will enjoy—SCS-Draw.

SCS-Draw is an easy-to-use drawing program with powerful capabilities like pattern filling, multi-screen drawings, variable-size printing, and file merge. With SCS-Draw, you can draw detailed images on your Kaypro screen and print them on your dot-matrix or daisywheel printer.

SCS-Draw comes with a library of sample images (like the Santa Claus shown here) and a 96-page illustrated user's guide that gives tips on how to draw and print everything from Christmas cards to bar charts.

SCS-Draw uses the standard arrow keys on the Kaypro keyboard, so you don't need any special hardware. You'll be drawing and printing in minutes.

New features in version 1.1 include X/Y coordinate display, vertical text for graph labels, and print-to-disk capability.

SCS-Draw is available for all '84, '85 and '86 Kaypro CP/M computers.

## PrintMaster Owners:

Now you can use your favorite PrintMaster images in your SCS-Draw drawings. The Image Extractor converts PrintMaster images to SCS-Draw image libraries, quickly and easily. Then you can use the full power of SCS-Draw to modify images, combine them with other drawings, or print them with SCS-Draw's versatile printing options.

You'll find many useful applications for this handy program. (Requires PrintMaster or Art Gallery, sold separately.)

**SAVE when you buy SCS-Draw and the Image Extractor together for only \$69.95.**

"A fabulous program... SCS-Draw permits you to draw to the best of your abilities—and your computer's."

*Profiles, March 1986*

"Extremely easy to use... excellent for creating logos, bulletins and newsletters."

*Clergy KUG, July 1986*

"The documentation is among the best I've seen."

*MicroTimes, August 1986*



**SCS-Draw 1.1 ————— \$59.95**



**Image Extractor ————— \$24.95**

- Free 2nd-Day Air shipping.
- Orders received by December 20th have guaranteed delivery before the 25th.
- Call for COD orders or more information.

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**312-577-7680**



SCS-Draw can be used with dot-matrix printers from Epson, Okidata, Star Gemini, C. Itoh, Panasonic, and IBM. Daisywheel printers from Kaypro, NEC, Juki, Brother, and Diablo are also supported.

**S E C O N D · C I T Y · S O F T W A R E**

**TurboROM: Ver. 3.4** just released: Provides substantial improvements to your CP/M Kaypro computer. Adds many new features to your computer. Compare the TurboROM with the competition, you can't get more performance for your money with any other product.

The competition - P= partial feature M= circuit modifications required

#### Advent TurboROM features

- P • 2 X to 4X speed on all disk writes (both hard and floppy)
- Faster disk reads (with Advent format)
- Supports 48 and 96 TPI drives
- M • Supports fast seek (3 ms) for 96 tpi floppys that's easily installed
- Up to 4 floppy drives in any mix of SS, DS, 48TPI and 96TPI drives
- 256 directory entries using Advent floppy format
- Up to 10 built in disk formats including Osborne, QX-10, Xerox, Micro C
- Super-speed disk copying with Turbocopy program
- Allows redefining of logical drive assignments
- Up to 2 Mbytes more storage on K10 hard disks
- Add a second or larger hard disk to K10s
- Up to 3.25K more program area on K10s
- Built-in screen dump
- Programmable cursor -- block, line, flashing, non-flashing
- Video screen blanking after 10 minutes of non-use (optional on '83s)
- P • Improved video performance on '84 computers
- Time displayed on 25th line of '84 computers (Real Time Clock required)
- Hard disk support built in (up to 112Mb)
- P • Ram disk support built in (up to 2048K)
- Driver Software available for MicroSphere and SWP RAM disks
- User written device drivers supported
- 32 character type-ahead keyboard buffer
- ZCPR1 included - Supports ZCPR2 and ZCPR3
- P • Advanced features list includes fine tuning floppy and hard disk performance
- P • Full set of utility software provided
- Compatible with all Plu\*Perfect CP/M enhancements
- Compatible with Uniform, Media Master, Fast Back, etc.
- No modifications required to your computer to use the TurboROM

TurboROM (Specify Kaypro model when ordering) ..... \$79.95

#### TurboROM Support Diskettes:

**Developers Disk:** Notes and tools for the TurboROM. ZCPR1 source, HD park program, Warm Boot speed up, XON/XOFF driver, etc ..... \$25.00

**TurboROM Applications diskette:** A menu driven program to patch all Kaypro 'U' ROM software to provide complete compatibility with the TurboROM. Complete with source code of each program patch ..... \$10.00

**External Driver diskette:** Notes and tools to write external drivers. Also SWP and MicroSphere Ram disk drivers to allow these products to be used with the TurboROM (Ver 3.4) ..... \$40.00

**RAM Disk Utility disk:** Utility to modify block size, number of directory entries and reserved tracks of the Advent RAM Disk with TurboROM installed. .... \$15.00

**RAM Disk:** Add an electronic disk drive to your computer. Enables programs to run faster than you ever thought possible. Ideal for applications involving word processing, spread sheets, data base management or any other tasks that require frequent use of the disk drives. Features:

- Fastest RAM disk available for Kaypro computers
- 10 to 30 times faster than floppy drives
- More directory entries than floppy drives
- Low power consumption (no fan required)
- Easy expansion up to 2048K
- Software driver loads FASTI (instant driver loading with TurboROM)
- Software driver may be loaded above the system to conserve memory
- Can be assigned to any drive name (A: thru P:)
- Auto loads the system if assigned as drive A:
- Mounts inside the Kaypro
- Works on all CP/M Kaypro computers - Nothing extra to buy
- Expandable to include TurboROM
- Expandable to include Real Time Clock/Calendar
- Expandable to include hard disks
- High reliability - Built to our proven high standards

Speed Comparison at 4 MHz - Times measured in seconds.

Function	Floppy	MicroSphere	SWP	Advent
Load "Ladder.com"	8.89	2.21	1.82	.80
Write 64K file	55.65	3.25	2.93	1.52

256K Ram Disk .....	\$349.95	Expansion Board .....	\$242.50
512K RAM Disk .....	\$389.95	256K Expansion Ram .....	\$40.00
768K RAM Disk .....	\$429.95	Real Time Clock .....	\$30.00
1024K RAM Disk .....	\$469.95		

**Clock/Calendar:** Real time Clock/Calendar for all Kaypro computers without built-in clocks. Works with Plu\*Perfect Datestamper or your own application software. Source code drivers provided for use with MBASIC, SBASIC, dBASE II, Turbo Pascal, C, and assembly languages. The Clock/Calendar also functions as a host adapter to our RAM Disk and hard disk add-on products. Add these other products as needed.

Clock/Calendar Interface ..... \$99.95

**Hard Disk Systems:** Now you can add hard disks to any CP/M Kaypro computer. Yet another reason not to sell your old workhorse to get the extra performance you now require. Add an additional 11, 22 or 34 Mb drive inside your Kaypro 10, or install a single 44 or 56 Mb drive. If complete systems are not what you need, then order just the parts you want. Call for more information. TurboROM included.

- High-speed disk read / write -- much faster than K10
- Supports 1 or 2 hard disks up to 56 Mb each
- Each hard disk can be divided into 1 to 7 logical drives
- Each logical drive can be any size up to 8 Mb
- User may select number of directory entries for each logical drive
- User-selectable block size for each logical drive
- Expandable to include RAM Disk
- Expandable to include Real Time Clock / Calendar
- Supports all features of our TurboROM
- Includes the Advent hard disk formatter software
- Advanced features include complete user definable disk formatting
- Supports a wide range of hard disk manufacturers and models

**Floppy Disk Kaypro Systems (Internal):** Add a single 11, 22 or 34 Mb drive to any Kaypro II, 4, 2X, 1 etc.

System, less drive .....	\$556.35	22 Mb System .....	\$1176.35
11 Mb System .....	\$1021.35	34 Mb System .....	\$1281.35

**Kaypro 10 System (Internal):** Add a 11, 22 or 34 Mb drive to the existing hard disk. The 44 & 56Mb drives replace the existing 10Mb drive.

System, less drive .....	\$177.00	34 Mb System .....	\$902.00
11 Mb System .....	\$642.00	44 Mb System .....	\$1377.00
22 Mb System .....	\$797.00	56 Mb System .....	\$2177.00

**Floppy Disk Add-On:** Convert any CP/M Kaypro with single sided (192K) drives to double sided (394K) or 96TPI (780K) drives. Add 3 or 4 drives in '83 computers. No soldering is required. Includes TurboROM. Kits start at \$79.95 less drives. Call for further information and pricing.

**5 MHz TurboBoard:** Our tried and true 5 MHz speed enhancement for the earlier Kaypro models.  
5 MHz TurboBoard for Kaypro II & 4 ..... \$74.95

**Software:** Advent stocks a large selection of software for Kaypro CP/M and MS-DOS computers. The following is a list of some of our more popular software products.

#### Utilities

DateStamper .....	\$39.00	Sidekick .....	\$54.95
General DateStamper .....	\$49.00	Smartkey II .....	\$49.95
Media Master .....	\$39.95	Smartprint .....	\$29.95
Media Master Plus .....	\$59.95	Uniform .....	\$69.95
MultiCopy .....	\$49.95	UniDOS .....	\$99.95

#### Programming Languages

C/80 Ver 3.1 .....	\$49.95	Turbo Pascal .....	\$69.95
C/80 MathPak .....	\$29.95	Turbo Toolbox .....	\$54.95
Toolworks C .....	\$49.95	Turbo Tutor .....	\$34.95

#### Accounting

Basic Business .....	\$149.95
Checks & Balances .....	\$74.95

#### Graphics

Rembrandt .....	\$39.95
Rembrandt '83 .....	\$44.95

#### Games

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Airport .....	\$19.95
Eliza .....	\$24.95
MyChess .....	\$34.95
Word Wiggle .....	\$29.95

#### Health & Diet

MyDiet (MS-DOS) .....	\$49.95
Computer Chef .....	\$29.95
What's for Dinner .....	\$19.95
Best of Wok Talk .....	\$29.95

All items are warranted for 90 days. 30 day money back guarantee if not completely satisfied. Money back guarantee for software applies only if diskette seal is intact. VISA and MasterCard are welcome. Please add \$2.50 freight per total order (additional freight and insurance on hard disk products) and \$2.50 for COD orders. California residents please add 6% sales tax. Prices, availability and specifications subject to change without notice.

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# PROFILES

The Magazine for Kaypro Users • Volume 4, Number 5 • November 1986

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### On the cover:

Telecommunications — It's one of the hottest areas of personal computing. Absolutely everyone seems to be going online. They get programs to play with; they share information and exchange opinions; they ask questions and offer answers; they talk. Artist Frank Mendeola illustrates the power and popularity of online communications on our cover. And our lead article, "The CompuServe Forums," highlights items of the most interest to Kaypro owners — the Kaypro SIG, CPM SIG, and more.




## Editors' Notes

**W**e'd like to announce a significant change planned for *PROFILES*. Starting with the December issue, two versions of the magazine will be published—one for owners of CP/M machines and one for MS-DOS owners. Though the columns, departments, and some of the feature articles will be identical in both versions, there will be articles specific to CP/M in one and to MS-DOS in the other. This way we hope to give each audience more of what it wants.

In this month's issue is our annual holiday gift guide, which should help you find gifts the computer users among your friends and family will truly appreciate. In addition to the guide itself, you'll find money-saving coupons you can use in making your purchases.

Also in this issue is William Murdick and Mike Craig's guide to the Kaypro forum on CompuServe, plus information on other forums of particular interest to both CP/M and MS-DOS Kaypro users. Accompanying the article is a handy chart that will help you navigate the Kaypro forum more easily.

The programming series also continues with Jerry Houston's discussion of pseudocode, a popular method of program planning. It can save you hours of debugging and rewrite time, result in better programs, and help you remember program logic if you ever need to make repairs or revisions.

Finally, Jim Spickard offers an overview of software for individual stock market investors, because sometimes making money the old-fashioned way—through laborious manual research—doesn't make sense. Though there's no surefire way to pick the right stocks, these programs can help you quickly narrow down the field of possible purchases, analyze the companies you're interested in, and manage your portfolio. 

Terian Tyre  
Diane Ingalls

## About PROFILES

### CO-EDITORS

Diane Ingalls  
Terian Tyre

### TECHNICAL EDITOR

Tom Enright

### ASSISTANT EDITOR

Suzanne Kesling

### ASSISTANT TECHNICAL EDITOR

Marshall L. Moseley

### CONTRIBUTING EDITORS

Brock Meeks  
Ted Silveira

### ART DIRECTOR

Lorraine Leung

### ASSISTANT PUBLISHER

Gwyn Price

### CIRCULATION

Mary Boggy

### CIRCULATION/EDITORIAL OFFICES

533 Stevens Avenue  
Solana Beach, CA 92075  
619/481-4353

### ADVERTISING

Nancy Donabedian  
249 S. Highway 101, Suite 321  
Solana Beach, CA 92075  
619/436-6112

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To direct *PROFILES* to a new address, attach a recent mailing label plus both your old and new addresses. Allow six to eight weeks for processing.

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# "MAKE YOUR IBM PC KAYPRO COMPATIBLE"

Intersecting Concepts Announces 3 Solutions To Solve Your Computer Incompatibility!

"But will it work on my computer?"

**Yes!** Finally, there are three easy ways to exchange information, transfer files, and run CP/M software on MS-DOS machines.



1. **MEDIA MASTER™** is our direct disk-to-disk format conversion program. Already an accepted industry standard, this \$39.95\* program uses simple screen prompts that lets you read, write and format up to 150 different 5 1/4" diskettes from CP/M, MS-DOS and PC-DOS operating systems. So if you work on a IBM-PC compatible at the office, but use a CP/M computer at home, now you can easily transfer files that would otherwise be "foreign" to your computer's operating system. **NEW! Version 4.0 for the IBM PC and compatibles is now 300% faster!**



2. **MEDIA MASTER PLUS™** features our new *Media Master 4.0*, plus a new version of *ZP/EM*, our powerful CP/M-80 emulator program. The results of this two-program set are amazing! Now you can run 8-bit Z80 CP/M programs from your Osborne, Kaypro or Zenith computers on your IBM PC or compatible. For only \$59.95, you can save your CP/M data, save your CP/M programs, *and* continue to get your money's worth out of your CP/M investment!



3. **ACCELERATE 8/16™** dramatically improves the performance of *Media Master Plus* by tailoring the CP/M emulation around a user-installable NEC V20 microchip. Once installed, the NEC V20 chip will run your CP/M software 350% faster than *ZP/EM*! (MS-DOS programs run 15% faster). You can quickly command *Accelerate 8/16* to use 8080 software emulation, Z80 software emulation, or the V20's hardware 8080 mode to run your CP/M programs. This new version of *Accelerate 8/16* includes all the software packaged in *Media Master Plus*, V20 CP/M Emulation Software, and the NEC chip for only \$99.95!

## THE CHOICE IS YOURS!

So if you just need to exchange files between different computers using different operating systems, there's *Media Master* at \$39.95.

If you're upgrading to an MS-DOS or PC-DOS machine or already have one but don't want to spend money buying "new" software programs you already own, there's *Media Master Plus* for \$59.95

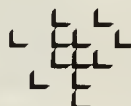
And if the execution speed of your CP/M programs is important, there's *Accelerate 8/16* for \$99.95, which provides a simple hardware *and* software solution to making your MS-DOS computer CP/M compatible.

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To order *Media Master*, *Media Master Plus*, or *Accelerate 8/16*, call **800-628-2828, ext. 629**.

All three solutions save you money by eliminating expensive modems and communications software. None of our products are copy protected, and all come with a 60-day money-back guarantee.

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Dealer inquiries invited.  
\* \$99.95 for Dec Rainbow

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# Letters

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## Correction

In "Staying in the Black: Using Multiplan to track a mutual fund IRA" (September 1986), there was an error in Table 3 (spreadsheet formulas). The formula for cell RIC9 was missing a parenthesis in the second line. Where it read "Inv\_D,365" it should have read **Inv\_D,365**. Adding the parenthesis will make the formula work.

In the October 1986 "Letters" column, the reply to Edward Gordon's letter ("A Drive Reset Problem," page 10) contained inaccurate information.

The A version of the 2.2u1 ROM is the only one available at this time. The C version is a prototype design that has not yet been released for distribution.

Kaypro Software Engineering is studying the problem described in Mr. Gordon's letter.

## Thumbs up on series

I thoroughly enjoyed Jerry Houston's article on programming languages ("A Survey of Programming Languages," September 1986). My daughter will be learning FORTRAN and Pascal in high school and she's already bugging me to explain what is meant by assembly language. Now all I have to do to get her off my back is hand her the magazine. Thanks for the help; it clarified a few points for me, too.

I do want to clarify one point, however. You explained the acronym for BASIC as "Basic All-Purpose Symbolic Instruction Code." All other information I have seen says it is "Beginner's All-purpose Symbolic Instruction Code."

Albert E. Swarts  
Houston, Texas

*We erred. BASIC does stand for "Beginner's All-purpose Symbolic Instruction Code."*

Your forthcoming series on programming looks quite interesting, and the initial article by Jerry

Houston was great—but please don't leave out ADA. The many of us who must use this language need all the help we can get.

I find *PROFILES* to be of significant help in my vocation. Thank you, and keep up the good work.

Louis L. Taylor  
McLean, Virginia

*Although ADA is a fairly esoteric language, we do plan to include material on it in the programming series. Stay tuned.*

## Which issue?

*PROFILES* is the only must-read-from-cover-to-cover magazine that arrives at our house. Each issue is eagerly anticipated.

The September 1986 issue arrived yesterday and there's very little I haven't already read in it. I do have a question regarding the letter from Rev. Roger Kovaciny of Columbus, Ohio. He refers to a *PROFILES* article regarding a WordStar patch that eliminates the need for a printer buffer. Unfortunately, he does not mention the exact issue in which it appeared. Please tell us just which issue contains this information.

I appreciate your article headings telling whether the article refers to 8- or 16-bit systems and the level it's written to. I wish the regular features, such as Tom Enright's "First Impressions" and "Technical Forum," as well as Marshall Moseley's "Tip Trader," would likewise list their subjects under such a heading. It's kind of disappointing to be reading about some program or usage tip and then find that it refers only to a system you not only don't have but also have no interest in.

Ray Arthur  
San Jose, California

*The WordStar patch you refer to appeared in the article "WordStar Deluxe," by Ted Silveira, which*

*was published in the July/August 1985 issue. (By the way, that patch enhances WordStar's ability to print a file while editing another file, but it does not truly eliminate the need for a printer buffer.)*

*In response to your second question, it isn't practical to label the columns and departments with operating system/user level headings. "First Impressions" and "Tip Trader" nearly always address a variety in the space of one column, and sometimes so does "Technical Forum."*

## The full-disk dilemma

Michael Schwager's article on saving files when a disk is full ("A Real Cliffhanger," September 1986) contains some misleading information and one outright inaccuracy.

He leaves out the most important WordStar command and the simplest trick for dealing with the problem. The command: ^KJ to erase a file while editing (^KF will show a directory of files on the logged disk, and the same command will remove it when you don't want it anymore). The trick: since WordStar always saves backups, you can free up space by erasing any backup file other than one for the file you are currently working on.

He also says that to break a file up into smaller files, it is necessary to split at a page break and use the page-number command at the beginning of the later file. This method will not survive any subsequent editing on the first file, because it may no longer end at the end of a page. But MailMerge's .FI command allows you to split a file anywhere. When you merge-print the first file, the second file is automatically printed right after it, without skipping to a new page, and pages are numbered consecutively.

The inaccuracy: he rightly says not to scroll to the beginning or end of a file with ^QR and ^QC when a disk is nearly full, but he is wrong



when he says that doing this a screen at a time with ^R or ^C is all right. It isn't, and for the same reason: when you move through a file that is bigger than what WordStar can hold in memory (about 18K), it will try to save on disk, and if it can't it may hang up completely.

For the harried writer who never made it all the way through the manual, Schwager's article will make things harder, not easier.

John L. Hammond  
New York, New York

*First, the ^KJ command was indeed mentioned in the article—this method of freeing up space on a disk was described on page 40.*

*Second, Schwager's method of breaking up a file into smaller files works and is not incorrect, but it does have the limitation you describe—if the size of the first file is changed in later editing, the page numbers in the second file will no longer be in sequence when the files are printed. However, the article was intended for WordStar novices, and as such, MailMerge commands were outside its scope.*

*Third, you're right in stating that it is possible for WordStar to get hung up if you move to the beginning or end of a file with ^R or ^C. However, according to MicroPro Technical Support it is much less likely than when using ^QR or ^QC. This is because when you move through a file, WordStar swaps blocks of data in and out of a temporary file. If you use ^QR or ^QC, these blocks are fairly large and may exceed the space left on your disk. If you move with ^R or ^C, the blocks are much smaller, and you're less likely to go over the amount of free space left on your disk. The bottom line is that it's safer to use ^R or ^C. The amount of free space on your disk is the key—if you've only got 2K left you're in a risky situation no matter what.*



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by Marshall L. Moseley

### Patching basics

I have a Kaypro 4'84 and an Epson FX-80 printer. I use my computer mostly for word processing with WordStar.

One of the reasons I bought an Epson is for the various fonts it produces. The problem is that all the commands the printer understands are in BASIC, while in my estimation BASIC is a very weak word processing tool.

So how do I get the full capabilities of my printer and still use WordStar? What's the trick?

Lt. Kevin Lucey  
U.S.S. Hammond

Your printer is designed to accept codes that tell it what to print. When your computer transmits the code for the letter "A," the letter "A" is printed.

Your printer also accepts codes that tell it how to print—which font and character pitch to use. If your printer has an alternate font available, then transmitting the correct code will initiate that font. Another code will set the printer back to the original font. The codes for each printer are usually located in a chart in the back of the printer manual.

You don't need BASIC to transmit these codes. That just happens to be the language your printer manual uses for demonstration. You can make WordStar send codes to your printer by patching the file WS.COM.

To patch a file is to use a disk editor (like DDT for CP/M or DEBUG for MS-DOS) to make direct, physical changes to a program file itself, so that the program being patched acts in the way you desire.

WordStar has four "user patches"—print commands that don't do anything initially, but to which you can assign any of your printer's codes. These user-definable commands are ^PQ, ^PW, ^PE, and ^PR.

For example, you can assign the printer code for turning on italicized print to ^PQ and the code for returning to regular print to ^PW.

If you don't want to use DDT or DEBUG to patch WordStar, you can use the installation program called WINSTALL on your WordStar disk, which allows you to select your printer from a list of printers. Once WINSTALL knows what printer you have, it changes the user patches for you. Or if you wish, you can use WINSTALL as a disk editor and assign printer codes directly to the four user patches.

In CP/M, WINSTALL consists of the files WINSTALL.COM and WS.INS; in MS-DOS the files are WINSTALL.EXE and WS.INS. Instructions for using WINSTALL are in your WordStar manual.

I know that this does not tell you specifically how to do what you wish, but that would take up more space than this column allows. For specific information on how to patch WordStar, read the article "WordStar Deluxe," by Ted Silveira, in the July/August 1985 PROFILES.

Silveira also described how to patch DataStar in the October 1986 "Flea Market," and he wrote an excellent two-part tutorial on the public domain CP/M disk editor DU, which can be found in the September and October 1985 issues.

### Stalking dBASE

I have had my Kaypro 2X for almost a year now and have enjoyed every moment of its use.

Up to now, my data base needs have been met quite well by DataStar. In fact, I was able to use DataStar and MailMerge to prepare the bibliography for my dissertation. However, in trying to set up DataStar for an upcoming project, it has become evident that I need a program with a great deal more flexibility. A lot of reading and dis-

cussion with other users has lead me to believe I need something along the lines of dBASE II, including its programming and query capabilities. However, no one has been able to tell me where I can find the CP/M version of dBASE II. I have looked through several magazines and contacted several area dealers, but to no avail. Does anyone know where I can obtain dBASE II, or another program with similar capabilities? Also, has PROFILES ever published a review of data base programs similar to dBASE II?

Wade Kotter  
Silver Springs, Maryland

If the project you are working on is another bibliography, you might look at the article "Personal Bibliographic Software," by Paul Ofman, in the March 1986 issue of PROFILES.

CP/M software is becoming more difficult to obtain through retail software dealers, but don't despair. The most popular CP/M programs (including dBASE II) are still available from mail-order houses throughout the country.

There are several advantages to shopping through mail: Mail-order houses probably have what you want; you don't have to leave your home—a few minutes on the telephone and the software is on its way; and, most important, mail-order businesses compete, so you can even shop around for the best deal. (If you were to find a local retailer who would sell you dBASE II, he would probably charge you full list price.)

There are a few rules for ordering through the mail. Do your homework. Research your needs and the available products before you call. You can shop by phone, but you can't browse. When you call your order in, you should know exactly what you want. Specify your computer type and disk format. The last thing you want is to open your new software

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and find a single-sided, single density disk formatted for an Apple computer.

Check the advertising in PROFILES and in other computer magazines for various mail order houses. Some software dealers you might try are Central Computer Products, (800) 533-8049 (in California, call 800/624-5628) or Martian Technologies at (619) 464-2924. And by the time you read this, Advent Products should have dBASE II and MicroPro products (WordStar and DataStar) available.

### Head cleaning quandary

I own a Kaypro 4'83 and would like to keep the heads clean with my Datalife Head Cleaning Kit. This is supposed to work by inserting a cleaning disk into a running disk drive for one minute. I have no problem with drive B, but when I try to clean drive A, I get the message "I cannot read your diskette." How do I clean drive A?

Some related questions: Are my drives dual-head drives? (I'm supposed to remove a label covering an access hole on the cleaning disk if they are.) Is it okay to clean both drives at one sitting using the same disk?

Joel H. Marks  
New Haven, Connecticut

To clean drive A, place a disk containing the CP/M operating system in the A drive and reset the computer. The A> prompt will appear. Remove the CP/M disk from the A drive and replace it with the head cleaning disk. Type DIR and press RETURN. The A drive will attempt to read the head cleaning disk and in the process clean the drive heads. After one minute, remove the cleaning disk. Insert the boot disk and reset the computer.

By all means, remove the label covering the access slot. You do have dual-head drives, which are

designed to read double-sided disks, so the drive heads should have access to both sides of the cleaning disk.

I see no problem with cleaning both drives with a single disk (you can with every kit I've ever used), but read through your kit's documentation to make sure.


Remember, your drives do not have to be cleaned very often. Twice a year is sufficient.

### Desktop publishing

Recently an article appeared in TIME magazine titled "Revolution on a Desktop," which described how magazine/newsletter/newspaper editors are getting into desktop publishing via Apple's Macintosh computer and Page-Maker (v.1.2) software.

Do you know of any way that the Kaypro 2X can be used to produce camera-ready copy in a similar manner? I am a freelance writer and editor, and although my Kaypro/Juki 6100/WordStar combo is a dream come true, I still have to cut and paste to produce a good looking newsletter. Is there any software out there that will allow me to become a desktop publisher?

Joe J. Cummings  
Martinez, California

Unfortunately, no. There are graphics programs (such as Fancy Font from SoftCraft Inc., 608/257-3300) that will allow you to produce good looking cards, posters, etc. using a dot-matrix printer. But true desktop publishing involves much more, including typesetting, paste-up, and merging text and graphics. I know of no desktop publishing software for CP/M computers. 

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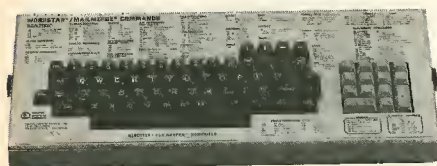
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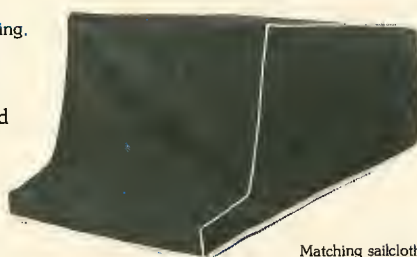


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continued on next page —



Baylor is also the main sponsor of an international "informatics" (information storage and retrieval) conference to be held in Texas in March 1987. Rohwedder said the conference will look at ways to deliver telecommunications to developing nations and will be attended by hundreds of people representing both governmental and non-governmental organizations around the world. ECONET is being used to plan and coordinate the event.

Rohwedder also gave examples of other typical users: a community group in Costa Rica trying to find out why a village's new earthen cookstoves were falling apart (someone on ECONET was able to determine that ocean salt was preventing the cement from curing properly), and scientists in West Germany and Sweden, who began reporting information about the Chernobyl nuclear accident on ECONET even before the international media picked up the story.

"ECONET is for anyone involved in issues like housing, energy, food, cottage industry, or hazardous materials," said Rohwedder, "or even people just interested in computer networking. It isn't for big businesses—it isn't a CompuServe. It's for individuals and small, non-profit organizations."

ECONET still "lives on" the Tymnet network. This means that Tymnet's computers store all ECONET's message and data bases and take care of any "housekeeping" required on the conferencing system. (Housekeeping tasks include backing up all the message and data bases.) Living on Tymnet allows ECONET to be accessed from 65 countries.

ECONET is divided into three areas: electronic mail (E-mail), bulletin boards, and conferencing.

The E-mail section is simply for sending and receiving private messages. The bulletin board section is a series of topic-specific text files, called "bulletins." All bulletins are read-only, which means you can read them, but not add comments

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to them as you could in a regular message base. There are 18 bulletin board categories, including agriculture, energy, toxic wastes, international development, disaster relief, hunger, computers, and wildlife. (You can read about the informatics conference on the international development bulletin board, by the way.)

The conferencing section includes both public and private conferences. This is the section where you can leave comments or reply to comments made by others. Anyone can start a public conference—all you need is a topic.

Farallones Institute, 15290 Coleman Valley Rd., Occidental, CA 95465; (707) 874-3060.

### ***Grassroots advocate***

**Board Name:** Environet

**Location:** Orange County, CA

**Phone:** (714) 731-6439

**Hours of Operation:** 24 hrs/day

**Log-On:** User ID:105; Password: parks.

**Baud Rate:** 300/1200

What ECONET is at the global level, Environet is at the local, grassroots level.

Started at the beginning of this year, Environet attracts casual

you're not interested in this board's specialty, logging on will give you some exposure to state-of-the-art bulletin board software.

Mist+ acts and looks like the Electronic Information Exchange System (EIES), the first computer conferencing system in the world. Mist+ has all the best features of EIES and avoids the worst, and it runs effectively at the microcomputer level. (Mist+ is available for both MS-DOS and CP/M operating systems.)

Once inside Environet you should download the help messages. The help files will tell you how to streamline your online sessions. Entering a comment here is a bit tricky, so pay particular attention to the "scratchpad" help file.

Currently there are eight public conferences taking place on Environet. (As on ECONET, you can set up private conferences with the approval of the sysop.) The public conferences cover topics such as current events, environment, legislators, peace, and more.

When you're scanning the conferences, the system gives you both the conference name and the number of new messages input in each conference since your last log-on.

The board is loaded with provocative comments. Typical is the following from Dale Steele on the subject of environmental activism and world peace: "There are strong reasons for including global environmental problems in grassroots agendas. The superpowers and other industrial nations are linked to the Third World both economically and environmentally . . . this fact drives most of the political and military strategy dominating the world today . . . these [Third World] countries have avoided environmental safeguards, at the encouragement of the multi-national companies, for fear that they would limit the benefits of economic growth." There's not a lot of lightweight banter on this board.

Any organization or individual concerned about the environment will find Environet well worth exploring.

## ***Scientists began reporting information about Chernobyl on ECONET even before the media.***

Private conferences are by invitation only and can be set up under the guidance of the sysop.

ECONET's software is its biggest drawback. The system, although fully functional, is still "under development," as Stalberg puts it. You will find it has some annoying quirks. For example, you cannot read several bulletins in succession. Instead you must run through a selection menu for each bulletin you want to read.

And not all the bulletins operate in the same manner; you'll find that some of the prompts change from category to category. This makes it difficult to set up an automatic log-on and retrieval macro. Stalberg assures me that he is working on these problems. But these quirks are minor, and the value of the information on the system more than makes up for the problems.

ECONET offers free trial subscriptions for up to one month. Should you decide to become a regular subscriber, there is a flat fee of \$15 a month. That includes all your online time, both for ECONET and for using the Tymnet packet carrier.

For a free trial subscription, contact Christian Stalberg, ECONET,

users and is intended to increase communication on local political and environmental issues and to serve as an alternative to the conventional news media.

Sysop David Salahi describes Environet as "a system that centers on environmental, technological, and ecological topics. Particular attention is paid to current political issues relevant to these topics. Environet strives to keep its users apprised of current legislative and judicial actions, as well as the activities of local environmental groups. In addition, we feature reviews of books, magazines and television programs.

"Environet's purpose is to act as a pipeline for the exchange of information regarding the environment and ecology and the technology involved in both. It is hoped that through our interaction we will be able to maintain the quality of the Earth's living biosphere."


The system has the horsepower to accomplish the task Environet has set for itself. Running under a software package called Mist+, Environet can handle both computer conferencing and E-mail in a sophisticated manner. Even if



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## TWIST & SHOUT!

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Widget Sales (\$)	4677.12	3001.60	4315.20	5522.16
Gadget Sales (units)	4221	3452	3434	4567
Price each	2.34	2.34	2.34	2.34
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TWIST & SHOUT! is two great pieces of software for one low price! TWIST lets you print out your spreadsheets (or any file) sideways on your dot-matrix printer. No more cutting and pasting to put together a fragmented printout. SHOUT prints giant banners in letters from two to eight inches high using three special type styles. Make banners, posters and signs with ease. Printers: Anadex, Apple, C. Itoh, Centronics, Data Products, DEC, Epson, Hewlett Packard, IBM, IDS, MPI, NEC, Mannesman Tally, Okidata, Smith Corona, Toshiba and more! Write for latest list.

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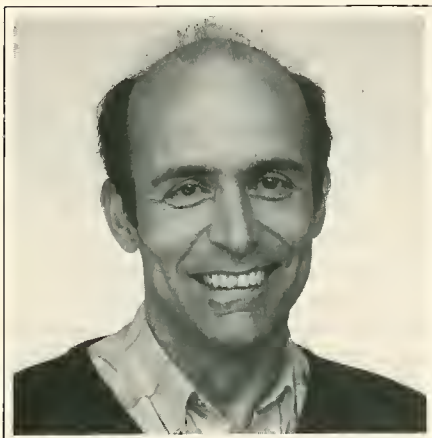
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# Flea Market



by Ted Silveira

I never thought it would happen. I was surprised enough to discover that it's possible to patch WordStar for a default right margin greater than 76 and to modify the default tab stops (see "Flea Market," June 1986). But I *never* expected that one day someone would find a patch to allow searching for the elusive ^S within a WordStar file.

As WordStar users know, WordStar's find and find/replace commands are very powerful. But until now, it wasn't possible to search a file for ^S, the character used to start and stop underlining (you actually enter ^PS, but it shows as ^S). This is because WordStar also used ^S in the find commands as a wildcard character (to match any character not a letter or a digit). Consequently, if you had a file full of ^S underline commands and found you needed to remove them (to transfer the file to a typesetter, for example), you either had to search for them all by eye (tedious) or use an external program (clumsy).

But now the problem is solved. The June 24 issue of *PC Magazine* carried a letter from Albert J. Klee of Fayetteville, Ohio, who described

## WordStar's last mystery solved?

a simple patch that allows the MS-DOS version of WordStar to search for ^S. Richard Holway, a dedicated CP/M user, saw the letter, couldn't stand the thought of being left out, and figured out how to convert the patch to CP/M WordStar 3.0. Richard then passed the information along to me so that I could figure out the patch for CP/M WordStar 3.3 (the version most Kaypro users have).

The patch consists of a one-byte change to WordStar's WSOVLY1.OVR file that substitutes ^Y for ^S as the wildcard in find commands. If you want to search for ^S, you can now just enter ^P^S in the search string and WordStar will search for it like any other character. If you want to use the "any symbol not a letter or digit" wildcard option, just enter ^Y. (Once the patch is made, you won't be able to search for ^Y any more, so if that's important to you, you'll have to modify the patch.)

Here's the patch. If you've never patched anything in WordStar before, you might want to read about the technique in "WordStar Deluxe" first (*PROFILES*, July/August 1985). Otherwise, copy a working version of WordStar and the program DDT.COM onto a fresh disk. Log in the disk, and at CP/M's prompt type DDT WSOVLY1.OVR.

### Patch for WordStar 3.3

If you have WordStar version 3.3,

you should see the following:

```
DDT VERS. 2.2
NEXT      PC
8400      0100
-
```

The hyphen (-) is DDT's prompt. At the prompt, enter **L20DC**. DDT should respond by showing you a list of strange-looking assembly language mnemonics, starting with **CPI 13**. If the list starts with anything other than **CPI 13**, stop immediately and go no further. Your version of WordStar is somehow different from the usual, and you'll need to find someone who knows assembly language to find the right patch point for you.

If all looks okay, you're ready to make the patch. In the following script, your entries are printed in **boldface** type and DDT's responses are in normal type. Make sure you end each entry by pressing the RETURN key.

(Ed. Note: All the Os shown in the DDT examples and instructions are zeros; the slashed zero is a reminder that you're entering "G zero," not "GO.")

```
-
- S20DD
20DD 13  19
20DE CA  . (Enter a period.)
- G0
```

After you enter **G0**, DDT will

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return you to the CP/M prompt. Before you do anything else, you must save your patched program, so at the CP/M system prompt, enter **SAVE 131 WSOVLY1.OVR**. CP/M will save your newly patched overlay file to the disk. Test it by running WordStar, creating a sample file, and searching for various characters, including ^S. Also try using ^Y as a search wildcard. If all goes well, you're done. If not, make a clean copy of the WSOVLY1.OVR file and try again.

### **Patch for WordStar 3.0**

If you have WordStar version 3.0 instead of version 3.3, the patch procedure is the same, but the addresses are different. When you enter **DDT WSOVLY1.OVR**, you should see:

```
DDT VERS. 2.2
NEXT      PC
8600      0100
-
```

Again at the hyphen prompt, enter **L2099**. As above, you should see a list of assembly language mnemonics, starting with CPI 13. If what you see looks different, back off and find someone to help you with the patch. If everything looks right, then follow this script:

```
-
- S209A
209A 13 19
209B CA . (Enter a period.)
- G0
```

As before, **G0** will return you to the CP/M prompt. Before you do anything else, enter **SAVE 133 WSOVLY1.OVR**, and CP/M will save your patched file to disk. Notice that you're saving 133 instead of 131 as in WordStar 3.3.

That's it. Test the new WordStar as described above, and if it doesn't work, try the patch again with a fresh copy of WSOVLY1.OVR.

My patched WordStar seems to work fine, but as with any patched program, you should keep an eye out for hidden bugs and side effects for several weeks. And let's give a

cheer for Albert J. Klee and Richard Holway. Nice going . . .

### **Mini-Winnie mini review**

For the past two months, I've had a Mini-Winnie hard disk attached to my computer, and while I don't have enough space for a full review, I like it so much I thought I'd tell you about it.

The Mini-Winnie hard disk kit is a product of Advanced Concepts Engineering and Consulting (see

stallation is done—nothing to solder, nothing to cut.

The software installation is also easy. You copy the installation program onto a fresh disk, add a copy of MOVCPM.COM (or a copy of your CP/M system image) to the disk, and run the installation program. You're then asked a series of questions, which you answer following suggestions given in the Mini-Winnie installation manual. Better yet, most Kaypro users can get the optimum installation for their com-

## **Installing the Mini- Winnie hard disk is easy—nothing to solder, nothing to cut.**

their ads in any issue of *PROFILES*). The standard external kit consists of a hard disk drive, a case to put it in (complete with power supply and fan), a custom hard disk controller board, a menu-driven installation program, and all the cables and other odds and ends you need for installation. The Mini-Winnie can be installed on almost any CP/M computer, including all Kaypros, and the price is cheap for CP/M hard disks: \$465 for a 5-megabyte kit, \$665 for 10 megabytes, and \$790 for 20 megabytes. These prices aren't as low as the rock bottom prices you can find for MS-DOS hard disk kits, but they're lower than almost anything you'll find in the CP/M world.

On Kaypros, the hardware installation is easy. You take the top off your Kaypro, locate the Z-80 chip (the brains of your computer) on the Kaypro's main circuit board, and pry it gently out of its socket with a special chip puller or a small, flat-bladed screwdriver (working very carefully). You then plug the Z-80 chip into an empty socket on the hard disk controller board, plug the board into the now-empty Z-80 socket on the Kaypro's main board, feed the cables out the back of the computer, and replace the top cover. The hardware in-

puters by simply selecting the default responses at each menu prompt, without knowing a thing about "interleave factors" or "partitions."

Once you've answered the necessary questions, the installation program formats the hard disk, sets it up the way you asked, and creates a small program called HARD.COM, which you use to let your computer know the hard disk is there after a cold boot or startup. One drawback of the Mini-Winnie system is that you can't cold boot from it; you have to cold boot from a floppy and then run HARD to kick in the hard disk (warm boots go to the hard drive, however). But the whole boot process is so quick that it's never a problem. (I boot from a floppy disk that's set to automatically run HARD on startup.)

Overall, the installation process—both hardware and software—is easy and well within the powers of the non-technical user. Unfortunately, the version of the installation manual I received is not as good as it should be, but a new version is in the works and should be ready by now. As if to offset the weak manual, Advanced Concepts (in the person of Tony Nicotra) offers excellent telephone support to its customers, along



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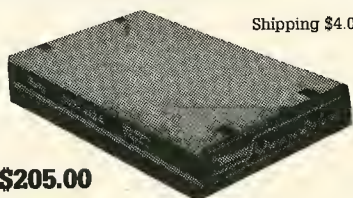
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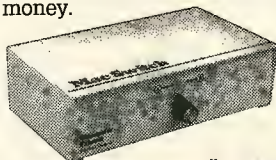
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The performance increase you  
get from adding the Mini-Winnie (or  
any good hard disk) is substantial. I  
ran a very unscientific but useful  
speed test by using PIP to copy a  
160K file first from floppy disk to  
floppy disk and then from hard disk  
to hard disk. The results: floppy to  
floppy, 76 seconds; hard disk to  
hard disk, 18 seconds.

The other big bonus you get with  
a hard disk is convenience. Be-  
cause of the massive increase in  
disk space, most people can have  
all the programs and files they nor-  
mally use available all the time.  
Until you've worked with a well-set-  
up hard disk, it's difficult to grasp  
how much difference this instant  
accessibility makes. You can exit  
WordStar, call up your data base to  
check some facts, then exit the data  
base and jump back into WordStar,  
all in a flash and all without swap-  
ping a single floppy disk. If you  
change programs a lot, it's abso-  
lutely wonderful.

## The MS-DOS corner

This month, I've got four small but  
useful programs to cover.

PARKER and TIMPARK1 are  
programs that "park" the heads of  
your hard disk by moving them to a  
safe section of the disk where no  
data is stored (you park heads to  
prevent damage to the data tracks  
of the disk should the heads contact  
the disk while it's still moving).  
Some newer hard disk drives are  
built to prevent the heads from ever  
contacting the disk and to park  
them automatically when you turn  
the drive off, but if you have an older  
hard disk or just want to play it safe,  
you can use one or both of these  
programs.

PARKER is the simpler of the two  
programs. Run it just before turn-  
ing your computer off, and it parks  
the heads and puts the computer  
into a loop to prevent any further  
hard disk activity.

TIMPARK1 is a little different.  
It's a memory-resident program  
that you load when you start up

your computer. It then stays active  
but invisible while you work, and if  
there's been no hard disk activity  
for a certain period of time, TIM-  
PARK1 parks the hard disk heads.  
It doesn't lock up the computer,  
however, so the next time a pro-  
gram reads or writes to the hard  
disk, the heads unpark themselves  
and go to work. TIMPARK1 is very  
useful if your computer stays on for  
long periods of time (as bulletin  
boards do, for example).

WHEREIZ is a program whose  
function is to help you locate files  
on your hard disk. Give WHEREIZ  
the name of a file (using wildcards  
if you want), and it will search your  
entire disk, reporting back the  
exact location (directory, subdirec-  
tory, etc.) of every file fitting your  
description. It's great both for locat-  
ing files you don't use very often  
("Now where did I put that . . .")  
and for finding duplicate copies of  
files. It's small and speedy, and it  
does its job well.

SCRNSAVE is useful whether  
you have a hard disk or not. It's a  
memory-resident program (like  
TIMPARK1) that monitors your  
keyboard activity. If you haven't  
pressed a key for a certain period of  
time, SCRNSAVE blanks out your  
screen to prevent damage. (If you  
leave the same image on a non-LCD  
screen for a long period of time, it  
can "burn" itself into the screen  
permanently.) As soon as you press  
any key, SCRNSAVE restores the  
screen for you. SCRNSAVE is very  
well-behaved, the kind of program  
you can include in your AUTO-  
EXEC.BAT file and then forget  
about. I found only one program  
that conflicted with it—Living Vid-  
eotext's Ready! idea processor—  
and in that case, all that happened  
was that SCRNSAVE wouldn't work  
while Ready! was loaded.

Finally, for those of you MS-DOS  
WordStar users who don't read *PC  
Magazine* and still want to make  
the ^S patch mentioned at the  
beginning of this column, you must  
use DEBUG.COM to insert the same  
value, 19, at address 20D5h in  
WSOVLY1.OVR.



# XMAS SPECIALS FROM THE XPERTS!

## XtraKey

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Ted Silveira, Profiles

The fact is, XtraKey makes your computer faster and easier to use. Type something once... a word, a name and address, a long command sequence, a formula, whatever... then recall it again and again with a single keypress. And, you can have hundreds of these "definitions" available at anytime, even while running your favorite programs.

XtraKey does more for you. Use your computer like a typewriter. Take what's going to the printer and send it to the screen. Switch to a Dvorak keyboard layout. Display custom help menus for tough programs. And about 20 other goodies. Plus, if you own a Kaypro, you can redefine your keypad keys, print your screen display or take advantage of XtraKey's new "window" for even greater ease-of-use. **No other key definition program offers so much!**

XtraKey works with just about every program we've seen and is compatible with fancy ROMs, ZCPR and most other strange things you may have lurking in your system. Includes disk, manual and quick reference card. **Only \$29.95.** (Available for most CP/M 2.2 computers.)

## XtraPrint



It's like XtraKey for printers! Now, special features such as boldface, italics, alternate pitches, underscoring, etc. can be accessed easily... even if your favorite word processor (or any program that prints) doesn't support them! Simply insert your own user-definable sequences of characters or codes into a file and let XtraPrint expand or change them to whatever you want (no length limits).

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## XScreen



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Technical Editor, Profiles Magazine

XScreen is the clever program that makes instant copies of your computer's current screen display on your printer OR saves screen copies to disk in standard word processing text files. Works any time, even while running your favorite programs. Print out menus, addresses, spreadsheet totals, E-mail messages, etc. or save to disk and use your word processor to enter them into a report or a letter. XScreen is easy-to-use and requires no installation.

**Only \$19.95.** (Available for IBM-PC, Kaypro CP/M and Zorba CP/M.)

## Side2

Until now, CP/M users wanting to print out extra-wide spreadsheets or reports could only twiddle their thumbs and watch while MS-DOS'ers were using a nifty program that turns everything "sideways." Twiddle no longer... Side2 is here. No more gluing or taping. Take that 25-year monster financial plan and print it down your paper instead of across. **Only \$24.95.** (Available for IBM-PC and most CP/M computers.)

Side2 requires an IBM-PC, Epson, Prowriter, Okidata or compatible dot-matrix printer (other printers being added, contact Xpert Software for information). Works with any program producing text file output (no width limits) including Perfect Calc, SuperCalc, dBase II, CalcStar, WordStar, Lotus, etc.

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2. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
3. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
4. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
5. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
6. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
7. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
8. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
9. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
10. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
11. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
12. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
13. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
14. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
15. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
16. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
17. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
18. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
19. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
20. Department Stores	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0
TOTALS	189.0	210.0	230.0	250.0	270.0	290.0	310.0	330.0	350.0	370.0

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# The CompuServe Forum

## *A rich resource for Kaypro Owners*

by Mike Craig and William Murdick

**W**hen you think about joining a big commercial information utility like CompuServe, you may imagine yourself ordering up your own airline reservations, getting a bargain by shopping online, obtaining the latest stock quotes, or gathering information for a report by accessing the numerous bibliographies and literary data bases available.

All that and more is indeed there, and CompuServe is continually adding services. But many Kaypro users have found a hidden treasure—a valuable set of options available to them in a less often advertised section of CompuServe known as the “forums.”

A CompuServe forum is a special interest group (SIG) and bulletin board system (BBS) dedicated to a particular subject and operating on a national level. The term “forum” suggests a rather formal gathering, and the SIGs do have scheduled conferences, sometimes on specific subjects with guest experts participating. However, most of the discussion is informal, ranging from questions and answers about technical problems to philosophical exchanges, simple message leaving, and even gossiping and joking.

The forums make a nice stopping-off place after you’ve done your “serious” research. Best of all, they provide an invaluable service when you *need* information about your computer system or a piece of software. The level of expertise available on this national data base is impressive; nowhere else are you more likely to get your technical questions answered and your problems solved. That may seem a bold claim, but one visit will convince you that it’s not an overstatement.

We are going to take a detailed look at the Kaypro forum, which concerns itself with all subjects of interest to both CP/M and MS-DOS Kaypro owners. We will

also take a quick glance at a number of other forums frequently accessed by Kaypro people, including several for MS-DOS users, one for CP/M enthusiasts, and one for MicroPro (WordStar & family) software users. In this article we’re assuming that you are new to CompuServe, but that you know how to log on and how to use your telecommunications software.

We have charted the structure of the Kaypro forum in the figure on pages 24-25. All CompuServe forums employ a similar layout and similar—often identical—menus. Use this chart to navigate the forum more quickly and easily.

### *Getting acquainted*

The CompuServe prompt is an exclamation point. After logging on to CompuServe and obtaining the first !, type **GO KAYPRO** and then press **RETURN** to jump to the Kaypro forum. The first time you do this, you will be asked if you wish to become a member of the forum. Always join any forum you are visiting; it costs nothing and without membership you cannot fully participate. You are paying CompuServe for the privilege of being wherever you are, so don’t be shy about using the service—in a civilized manner, of course.

Once in the Kaypro SIG, there are basically three things you can do: You can participate in a conference, if there is one; you can read or write messages (the most popular activity); or you can upload or download public domain software, documentation, and even short essays on using popular software and hardware.

The first thing beginners should do is get the help files. These explain processes like downloading and address other common problems. Help files, as well as all the other files, are in section 4, the Data Libraries. If you use MITE, you can pursue the following trail



through section 4: First, make sure CAPTURE is set ON, so that everything that appears on your screen is saved to a text file. Then, from the Data Library Subtopics Menu, choose 0 for "General," followed by 2 for "Browse thru files." Then read the following files: MITEDO.HLP, UPLOAD.HLP, MITE.HLP, BUGMIT.HLP, and MITSET.HLP.

For beginners, the two most important sequences to learn are those for reading and writing messages, because that's how you are going to get help from other users. For example, when we first began reading Kaypro SIG messages, we came across a user who was having trouble making a successful binary download (downloading a public domain program). She had sent out a general "HELP!" message. Out of curiosity, we read the responses and interchanges between her and the people trying to help her. Eventually, someone figured out that she was trying to use the Xmodem protocol while in the capture mode, an impossibility, and that realization solved her problem.

### *Messages—an addiction*

The message section is the heart of any CompuServe forum. It can become almost addictive—you start reading messages and you can't stop; you start leaving messages and you become intertwined with a group of friends you've never actually met. Eventually, you end up being a teacher as well as a student.

## *The message section is the heart of any CompuServe forum.*

When we were preparing this article, we left messages asking people what they found particularly valuable about the forums. One user, C.E. Coffey, summed up the feelings of many:

"The main attraction and the reason I keep coming back is the existence of people like Ted Silveira, who both writes fascinating articles on subjects of interest to a Kaypro II owner and answers easy and difficult technical questions on the SIG, [or] like Robert Flagg, who . . . is very entertaining and is very knowledgeable on matters computer and legal, and . . . the redoubtable Frank Fallon."

Ted Silveira, whom most of you know from his articles and columns in *PROFILES*, devotes a lot of time to helping people with technical problems (including us in the course of researching this article). Robert Flagg is an assistant Kaypro forum sysop and CP/M expert. Frank Fallon, a well-known figure in the telecommunications world, is the head sysop for the Kaypro forum. And there are others—Dick Blowers, another assistant Kaypro sysop and an MS-DOS expert, was quick to answer our technical questions about the forum when we first began to visit.

The CompuServe forums are the only place we know of where ordinary folks like us can listen to, converse with, and even get help from leaders and innovators in the micro world. When first visiting another forum relevant to Kaypro users, for example, we enjoyed eavesdropping on a conversation between a young woman and Ward Christensen, the famous inventor of Xmodem, the protocol most of us use to download binary files.

### *Leaving messages*

The first thing you see when entering the Kaypro or any other forum is the main FUNCTIONS menu, and appropriately for a forum, the first option is to "Leave a Message." Since leaving and getting messages is so important, we'll run you quickly through the process. As you follow along, keep one eye on the chart. When making a choice, you can use either the number or the letter(s) in parentheses next to the choice.

To leave a message—let's say to inquire about installing WordStar for an Okidata printer—you'd type a 1 (or L) and hit RETURN (CompuServe always requires that you hit the RETURN key after entries). You are then asked for the name of the person to whom you wish to leave the message. In our example, you would probably type ALL. If you wished to leave a message to a particular person, you'd enter that person's name, followed by his CompuServe ID number, if you know it—for example, **Mike Craig 71777,3011**. ID numbers can be obtained in the member directory, via section 6 from the main FUNCTIONS menu.

Next, you will be asked for a short description of the subject (e.g., "Okidata" or "printer help.") Be as accurate in your description as you can, because this is your chance to hook others into reading your message. All messages left on the CompuServe forums are public—that is, they can be read by anyone. People surveying messages look to the subject line to see if they wish to read them. (CompuServe has a separate mail service for private messages.)

You will then be presented with the following prompt:

Enter /EX to exit FILGE  
[New message ready]

FILGE is the name of the default editor for the Kaypro forum. (The two available editors are discussed in more detail in the article on page 23.) At this point, you simply begin typing your message, hitting RETURN at the end of each line.

Notice in the prompt lines above that you're told to enter /EX when you are finished with your message. That works here in the Kaypro forum using FILGE, but not elsewhere. It is important to pay attention to prompts because they change from forum to forum.

Once you've typed /EX, you will be taken to the LEAVE ACTIONS menu. If you change your mind and want to quit without saving your message, you can type 4 ("Abort the Leave Function"). Otherwise, select-



## Getting Around in the Forums

**W**hen you venture inside CompuServe you have many choices to make concerning which forums to visit. Following are some tips on using the forums efficiently.

If you're using the MITE telecommunications program, you have a decision to make at the outset in regard to parameters. The normal setting (eight data bits, no parity, one stop bit) will work, but you'll see only garbage when you first log on to CompuServe. You'll have to log on "blind."

If you are a beginner, you may prefer this setting:

---

*If you're in a place  
where you don't want  
to be and want out,  
type a ^C.*

---

seven data bits, even parity, one stop bit. This gives you compatibility with CompuServe from the moment of contact. However, it creates a small inconvenience if you want to download using the Xmodem protocol. MITE employs the LINE-FEED key (^J) to switch from CompuServe to the terminal for downloading. If you're using seven data bits, after downloading a file you must type ^F, allow a few seconds' pause, and then hit RETURN to get back to CompuServe. Otherwise, you'll remain stuck at your own terminal. If using eight data bits, that ^F is sent with the download, so your return to CompuServe is automatic.

Once you've logged onto a forum, you can go to the "Set User Options" section and turn off the menus and access the various functions through the use of "brief prompts." This is much quicker—the menus in CompuServe can get on your nerves—but it's not for beginners. The chart (pages 24-25) will help you identify the Kaypro prompts, which are the upper-case abbreviations in parentheses. The brief prompts are especially useful for creating macros.

While in "Set User Options," you might consider another time saver, which is to set the "Stop After Messages" option to off. Then, if you have "Type Waiting Messages" turned on, all your messages will scroll by—at super speed, if you're using a 1200-baud modem—and you can quickly capture them for later perusal when the meter is not running.

Another user option is the line length; you can change the default from 40 characters to at least 65.

Some forums provide public domain programs for fast uploading of messages that have been composed off line. If your communications software supports this,

you can save a lot of time, as well as send more thoughtful and readable messages.

If you're ever in a place where you don't want to be and want out, you can always get CompuServe's attention by typing ^C. You can also use ^C to skip the vacuous opening messages after log-on. To stop and then restart the scrolling of text, use ^S and ^Q.

In the Kaypro forum, the "Set Subtopic" function is useless because you are always required to set the subtopic after selecting an option on the FUNCTIONS menu. However, on some other forums, such as MicroPro, you will usually set the subtopic *before* choosing another option from the FUNCTIONS menu. Otherwise, as you move from function to function, you'll find yourself trapped in the same subtopic.

Another thing you should probably do if you're going to jump around a lot from forum to forum is set your user options at all forums for one editor, either FILGE or SIG. When you write your messages, FILGE gives you single spacing and the ability to erase backward within a line; you cannot edit a line once you hit RETURN. The optional editor is SIG, which gives you double-spaced numbered lines and the ability to later call up lines for revision. SIG, however, can be awkward for fast typists, who might begin typing a new line too soon after hitting RETURN and end up entering text between the numbered lines (as happened to us).

The ultimate route to efficiency, on the forums or anywhere else, is a sophisticated communications program. Such programs can be found in abundance in the data libraries. MITE is good software for beginners, but none of the experts we know uses it. Once you get some experience behind you, try MDM740 (or its latest incarnation, IMP244) or try MEX for CP/M telecommunications. In the MS-DOS world, Q-Modem (which we use) and ProComm seem to be popular public domain programs. For CompuServe itself, nothing can beat AutoSIG (abbreviated ATO), an MS-DOS program developed by members of the IBM forums. Here is their own description of the program:

"ATO is a highly specialized terminal communications program tailored to run within the . . . [CompuServe] Forum environment. ATO is a PC Forum's 'group project.' It allows rapid access of messages and E-mail for economical off-line replies and subsequent, fast, and continuous re-upload. Additionally, ATO supports the CompuServe 'B' error checking file transfer protocol, as well as split-screen operation while in Conference."

Wanting it done right, the folks in the IBM forums did it themselves. You can read more about ATO in Ted Silveira's October 1986 "Flea Market" column. ■

—Mike Craig and William Murdick



# FUNCTIONS

1. (L) Leave a Message ----- Leads to prompts TO, FROM, and SUBJECT -- when finished, type /EX -----

LEAVE ACTIONS

0 General

1 (S) Store the Message

2 (SU) Store Unformatted -----

3 (C) Continue Entering Text

4 (A) Abort the Leave Function

5 (L) List the message

6 (R) Replace a line

7 (D) Delete a line

SUBTOPIC # REQUIRED

0 General

1 Utilities/Comm.

2 KUG & Local Groups

3 16 BIT

4 Hardware

5 Perfect Software

6 Free Software

7 dBase, Turbo +

8 \* Star Software \*

9 Vendors

2. (R) Read Messages -----

MESSAGE SUBJECTS

0 General

1 Utilities/Comm.

2 KUG & Local Groups

3 16 BIT

4 Hardware

5 Perfect Software

6 Free Software

7 dBase, Turbo +

8 \* Star Software \*

9 Vendors

A All Authorized Subtopics

READ MESSAGES

1 (RF) Forward --

2 (RR) Reverse --

3 (RT) Threads --

4 (RS) Search -----

5 (RM) Marked -----

6 (RI) Individual -----

7 (GS) Quick Scan

8 (T) Return to Functions Menu +-----

READ ACTIONS

1 (RA) Read again

2 (N) Read next message

3 (RR) Read a reply

4 (RE) Reply with current subject

5 (UA) Reply with new subject

6 N/A

7 (T) Return to Function Menu

Enter command, N for next message or <CR> for menu:

3. (CO) Conference Mode -----

Informal weekly COs are held on:

Kaypro 2000 - Sunday evening 7 pm EST

Kaypro PC - Tuesday...9:30 pm

General-CPM - Wednesday...9:30 pm

[ Conference mode commands are: ] -----

/CHANNEL #	Tune to channel #	/OFF	Exit CB and log off
/TALK #	Private talk w/ job #	/WHO	Last talker's User ID
/MON 1,4	Monitor extra chnls	/HANDLE x	Change handle to "x"
/JUNK 7,3	Unmonitor channels	/SCR xyz	Scramble on key "xyz"
/STATUS	Type channel status	/SMC xyz	Scr & Monitor Clear
/DAY	Type time, day & date	/XCL xyz	Xmt Clear; unscr recv
/USERS	List on-line users	/JMS	Unscramble (both clr)
/USERS #	Users on channel #	/SQU abc	Squelch handle "abc"
/WHERE #	List info about job	/SBU #, #	Squelch by User ID
/WHERE #, #	Find the user ID	/JOB	Display your job #
/PAGE #	Page job #	/UID	User IDs w/ messages
/NO PAGE	Disallow pages	/NOUID	Turn off /UID
/EXIT	Exit CB	/BAND x	Switch to Band "x"
/GO mm-n	Go to Page "mm-n"		

4. (DL) Data Libraries -----

0 General

1 Utilities/Comm.

2 KUG & Local Groups -----

3 16 BIT

4 Hardware



```

5 Perfect Software
6 Free Software
7 dBase, Turbo +
8 * Star Software *
9 Vendors

DATA LIBRARY SUBTOPICS
1 (DES) Description of Data Library
2 (BRO) Browse thru files >-----+
3 (DIR) Directory of files >-----\
4 (UPL) Upload a new file >-----+
5 (DOW) Download a file >-----/
6 (DL) Change Data Library
7 (T) Return to Function Menu
8 (I) Instructions

1 (REA) Read this file
2 (DOW) Download this file
3 (T) Top Data Library Menu

Transfer Protocols available
1 - XMODEM or MODEM7 Protocol
+--> 2 - CompuServe 'B' Protocol
3 - CompuServe 'A' Protocol
4 - DC2/DC4 capture Protocol
0 - Abort transfer request

5. (B) Bulletins -----> 1 Short
2 Regular
3 Conference
4 Data Library
5 Membership Information
6 Sysop Roster
7 Return to Function Menu

6. (V) View Member -----> MEMBER DIRECTORY
Directory
1 (A) Add An Entry
2 (C) Change Your Entry
3 (D) Delete Your Entry
4 (S) Search ALL Entries
5 (T) Return to Function Menu

MESSAGE SUBTOPICS
0 General
5 Perfect Software
1 Utilities/Comm.
6 Free Software
2 KUG & Local Groups
7 dBase, Turbo +
3 16 BIT
8 * Star Software *
4 Hardware

7. (SS) Set Subtopic ----->
5 Perfect Software
6 Free Software
7 dBase, Turbo +
8 * Star Software *
4 Hardware

USER OPTIONS
1 (MEN) Use Menus [Yes]
2 (BR) Use Brief Prompts [No]
3 (TMM) Type Waiting Msgs [No]
4 (RNS) Skip Msgs You Left [No]
5 (T) Return to Function Menu
<CR> ---[ hitting RET leads to more ]-----+
Numbers toggle yes/no options

[more] USER OPTIONS
1 (LL) Line Length [40]
2 (CN) Name [mike craig]
3 (SM) Stop after Msgs [Always]
4 (PC) Prompt Character []
5 (ED) Editor [Filge]
6 (DS) Default Subtopic [ALL]
7 (HI) High Msg Read [18600]
8 (RE) Replies to Info [List]
9 (B) Back to Prior Menu Page
10 (T) Return to Function Menu

```

```

8. (OP) Set User Options ----->[ ] represents current setting
1 (MEN) Use Menus [Yes]
2 (BR) Use Brief Prompts [No]
3 (TMM) Type Waiting Msgs [No]
4 (RNS) Skip Msgs You Left [No]
5 (T) Return to Function Menu
<CR> ---[ hitting RET leads to more ]-----+
Numbers toggle yes/no options

[more] USER OPTIONS
1 (LL) Line Length [40]
2 (CN) Name [mike craig]
3 (SM) Stop after Msgs [Always]
4 (PC) Prompt Character []
5 (ED) Editor [Filge]
6 (DS) Default Subtopic [ALL]
7 (HI) High Msg Read [18600]
8 (RE) Replies to Info [List]
9 (B) Back to Prior Menu Page
10 (T) Return to Function Menu

The "Help" command may be
entered when the Forum prompts ----->
you for "Function."

9. (H) Help ----->
10. (E) Exit from Kaypro Users' Group

```



ing option 1 ("formatted") will store your text so that all readers will see it in the line length they happen to be using (the default, 40 characters, can be changed through number 8 from the main FUNCTIONS menu). In other words, storing "formatted" means the text will be formatted appropriately for each reader. Storing "unformatted" means that your text will appear exactly as you typed it. That can cause problems if the reader's line length is shorter than yours; however, it may be necessary if, for example, your message contains code lines that you don't want broken up.

After storing your message, you'll be asked to pick an area of the SUBTOPICS menu in which to leave your message. In our example, you might choose either "Hardware" or "General." The next time you log on to the forum you will be told whether there are any replies to your message.

### Checking replies

The easiest way to go about checking replies is to change one of the defaults in the "Set User Options" section of the main FUNCTIONS menu. Do this right away, the same day you leave your first message. Selecting 3 for "Type Waiting Messages" will change the default "no" to "yes." Now when you log on to a forum, your messages will appear automatically. After the

first one comes up, you have a chance to reply to it; otherwise, just type **n** to read the next message.

It is also possible to explore a very specific subject, such as Avatex modem capabilities, by using the Search option under "Read Messages." You can choose to start reading messages written to a particular person (including yourself), from a particular person, or on a specific topic—e.g. "Avatex" or "modem" (see the Search Field Menu in the chart).

The "Threads" option (number 3 under the "READ MESSAGES" sub-menu) allows you to pick a message number, read that message, and then continue reading replies and related messages, ignoring all other messages on the bulletin board. As Dick Blowers puts it, "They [threads] can get quite complicated, like a tree branching all over." It's easy to lose yourself among the branches, pursuing the lines of thought. In fact, while we were using MITE (CP/M version), which doesn't have an onscreen clock, we started setting a little table alarm to limit our meanderings to 20 minutes. This helped us keep the CompuServe charges and the phone bill under control. If you are using 300 baud (the rate used by internal Kaypro modems), the CompuServe charge for 20 minutes is only \$2 during non-prime-time hours. Of course, your phone bill depends on how far you have to call to get on to CompuServe. Most metropolitan areas have at least one local number available—a major advantage.

### Conferencing

In "conference mode" users can communicate directly with each other. A conference can be a spontaneous chat between a couple of users or a more formal occasion, with several participants, scheduled in advance.

The Kaypro forum offers once-a-week scheduled conferences for three subject areas: the Kaypro 2000, the PC, and CP/M Kaypros. A specific topic may be arranged—for example, a recent conference concerned the new CP/M Turbo ROM chip. One nice feature of the Kaypro SIG is that conferences like that one are recorded so that anyone can download them later.

Our impression is that the popularity of conferences comes and goes on any particular SIG, and that the style changes from forum to forum. Ted Silveira, for example, describes a now-defunct CP/M Morrow conference that "was like a loud cocktail party, with many people talking at once and several conversations going on at the same time. It was fun, it drew a lot of people, and it circulated a lot of good information."

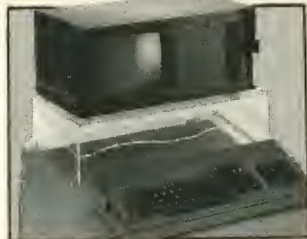
Our advice is that you explore the conferences on various Kaypro-relevant forums to find those whose technical level and style are right for you. The Kaypro forum conferences tend to be organized and technical; the CP/M conferences tend to be less organized but even more high tech. Both are somewhat intimidating to beginners and ordinary users.

### The data library

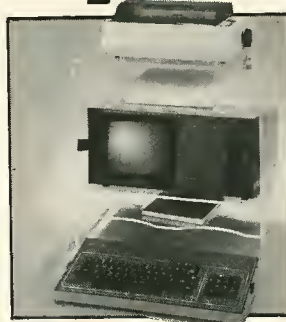
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to-date data libraries available anywhere. Data libraries are where you find all the files of public domain software, documentation, etc. It is the place where new software is dropped off for distribution to local bulletin board systems. Some users, however, have reservations about using CompuServe for downloading public domain software. The main complaint we heard was the expense, given both the phone charge and the CompuServe charge. These users felt that it was better to wait for a local BBS to pick up any new program. However, if you have to call long distance to a BBS but CompuServe is a local call, then CompuServe can be more economical.

### Other Kaypro-relevant forums

The CP/M forum puts you in touch with not only Kaypro owners but also Osborne, Morrow, Apple, and numerous other CP/M users. This is a high-tech hang-out, a great place to pick up information, especially if you're the kind of person who subscribes to *Micro Cornucopia*. The easiest way to get a sense of what's available in any forum for message exchange and program download is to read the entries in the SUBTOPICS menu, which will differ from forum to forum. Here are the CP/M subtopics: CP/M 80, General, Languages/Database, Commodore CP/M, lap computers, vendors, SIG/M, S-100, and 16 Bits.

For Kaypro MS-DOS users, the IBM Users' Network offers five SIGs: IBM New Users Forum, IBM Communication Forum, IBM Hardware Forum, IBM Junior Forum, and IBM Software Forum. The New Users forum seems to be a lively place and not intimidating, though there are plenty of experts around if you need help. The subtopics are General/New Uploads, Download Help, Data Library Tools, Adventures, Music, Graphics, Gen Fun and Games, Ask the Sysops, and Village Inn. The Village Inn is a place for gossip and lighthearted exchanges.

Most Kaypro owners will be interested in the MicroPro forum. Its subtopics include WordStar 2000, WordStar Family, Printers & Etc., MicroPro, and Add-On Products.

### Final words

Most users find the forums to be most beneficial as a source of information and a place to exchange views—sort of like a computer magazine, but one whose content you can influence by participating. One user, who works at home alone and no longer has colleagues to go for help, told us that "SIGs have replaced these colleagues in large part. Very few questions seem to go unanswered." That's been our experience, too.

*William Murdick is an English professor at the California University of Pennsylvania who runs a word processing lab on campus. Mike Craig is a ham radio operator and computer hacker whose main interest is telecommunications.*

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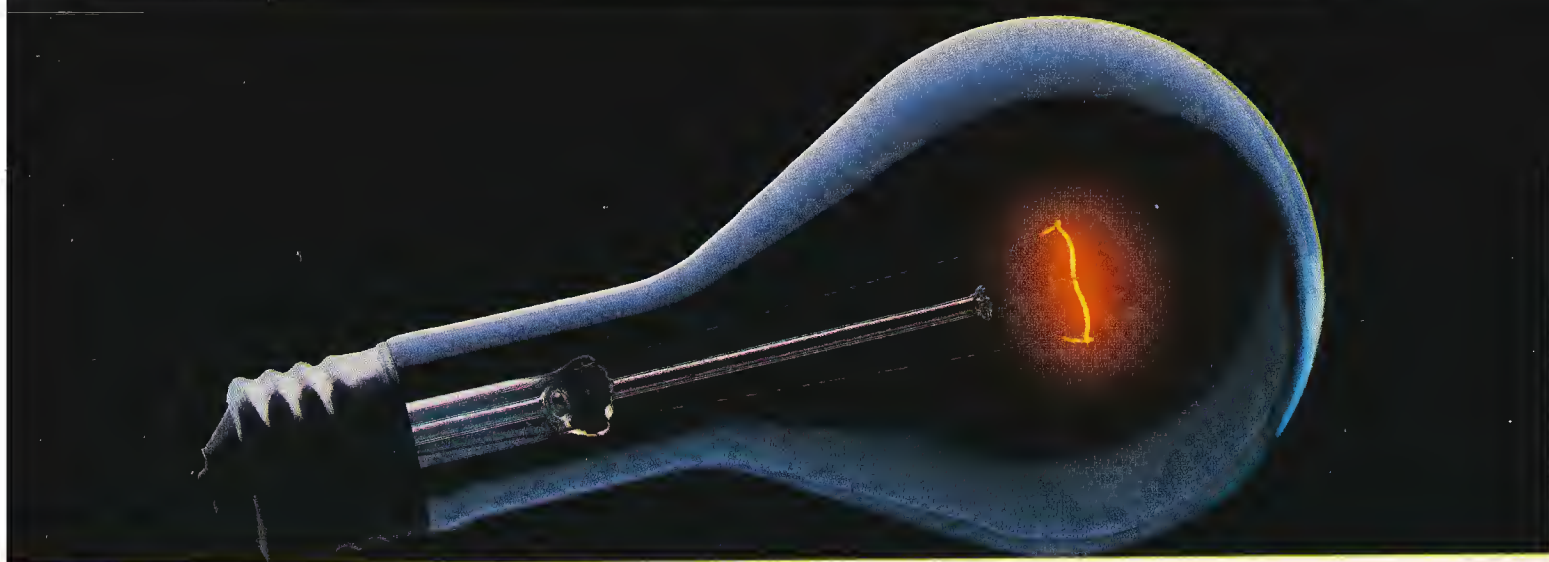
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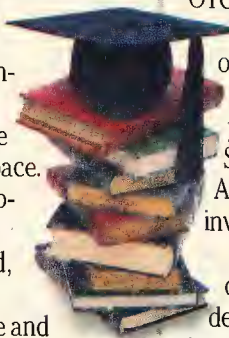


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# Planning a Program in Pseudocode

*How to save yourself hours of debugging time*

by Jerry Houston

*Editors' note: This is the third article in PROFILES' series on programming. It explores the advantages and techniques of planning a program in pseudocode before you begin writing the actual code. In this article, it is assumed that you have read the two previous articles in the series and that you've chosen a language for study and have practiced a bit with sample routines.*

What we will be dealing with in this article is a program planning technique that will save you untold hours of debugging time. The benefits of preplanning are well illustrated by Murphy's Law of Programming, which states, "The sooner you start coding your program, the longer it is going to take." What this means is that every hour spent planning what your program must do and how it will do it will save you two hours of debugging and rewrite time later on. This program planning technique is known as pseudocode.

Pseudocode is a series of written statements, resembling program statements, that define the logic of a program. You use pseudocode to create a framework for your program, then you examine and revise that framework to ensure that your logic and methodology are sound.

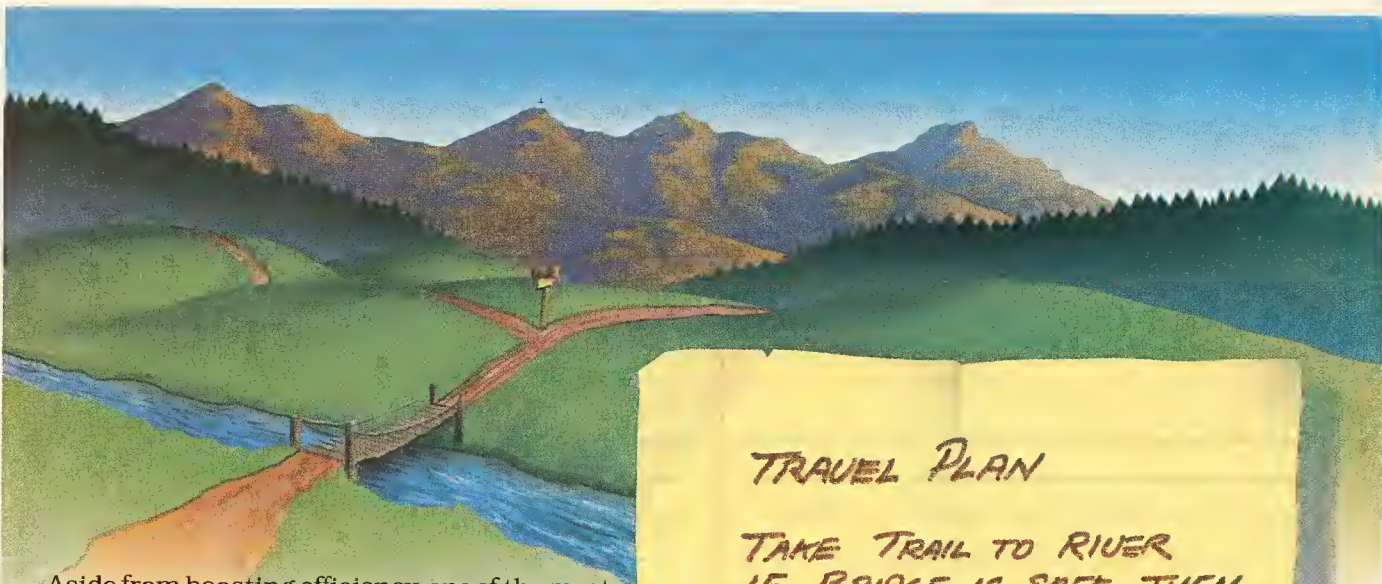
Pseudocode is one of the two most popular program planning methods used by most professional programmers. The other popular method is flow charts, which I will deal with in an article in next month's *PROFILES*. Other planning methods—such as Nassi-Scheiderman charts and IPO charts—exist, but they are more specialized and not as widely used as pseudocode and flow charts.

Using pseudocode as a method of program planning is a part of the science of "structured programming." The basic idea is that detailed planning can eliminate most of the false starts (coding ideas that don't work), oversights (operations that were omitted), and expensive alterations (changes required when the client wants something added) in commercial programming projects. What it boils down to is that it's cheaper to do it right the first time. There's nothing to keep you from using the same methods in your own programs. Besides, there isn't much that boosts the ego more than having a program function correctly the first time you run it, instead of after two weeks of debugging.

Don't expect to learn all there is to know about writing pseudocode from a single article—our purpose here is just to give you an idea of how it's done and what the considerable benefits are. You can learn more in a community college class or from a good book. Some worth looking at are *Business Programming Logic*, by Jay Singelman and Jean Longhurst (Prentice-Hall), and *A Structured Approach to Programming*, by Joan K. Hughes and Jay I. Michtom (also from Prentice-Hall).

The prefix "pseudo" comes from the Greek *pseudes*, meaning "false," and "code" refers to program code (statements). Pseudocode is almost totally unfettered by rules, and it is while working with pseudocode that we can and should be the most creative—not when working with a formal language that demands strict adherence to many rules. Anyone can learn the few rules that pseudocode requires in just a few minutes and remember them forever with a little practice. Some writers and instructors extend the basic rules of writing pseudocode, but it's best not to make it too complicated or much of its usefulness is lost.





## TRAVEL PLAN

TAKE TRAIL TO RIVER  
IF BRIDGE IS SAFE THEN  
CROSS RIVER

ELSE

CROSS AT SHALLOWS  
RETURN TO TRAIL

FOLLOW TRAIL TO FORK  
AT FORK TAKE SOUTH BRANCH  
IF TRAIL IS CLEAR THEN  
STAY ON IT

ELSE

RETURN TO RIVER BANK  
FOLLOW RIVER SOUTH

Aside from boosting efficiency, one of the most important reasons for using pseudocode is that if it is available for reference, a maintenance programmer (who may or may not be the original author) can quickly figure out the logic used in the program. If a computer program is genuinely useful, especially for a business or scientific application, it will certainly be in service for a long time and will be revised several times as needs change. The same thing applies to programs that you have written for your own use. With well-written pseudocode available as a reference, future revisions can be made in a fraction of the time it would otherwise take.

The keywords (words with special, reserved meanings) that are used in pseudocode are found in many computer languages, as well as in everyday English. The ones most often used are:

READ	WRITE
WHILE	UNTIL
IF	THEN
ELSE	ELSEIF
ENDWHILE	ENDIF
PERFORM	REPEAT
START	STOP

### The rules

It doesn't take long to learn the basic rules of pseudocoding, so we'll run through them first before we walk through our example.

The first word in a pseudocode sentence is one of the keywords, and it is customarily written all in capital letters. The rest of the words on the line are written in lower-case letters. In our examples, hyphens between words are used to denote variable or procedure names.

The only other point to remember when writing pseudocode is proper indentation. The statements that make up a loop or a group of instructions executed as the result of an IF statement should be indented to show just what statements are actually part of the loop or conditional action. This technique makes it easy to keep track of nested loops, in which one or more loops repeat within an outer loop.

Most high-level programming languages use many more keywords than are shown here, but for writing pseudocode, these will suffice. You will see how each one is used in actual practice when you read our examples on the following pages.



A loop or condition starts with the keyword WHILE or IF aligned under the previous statement. Statements within the loop or conditional block are indented a few spaces to the right of the WHILE or IF keyword. When the loop or condition ends, an ENDWHILE or an ENDIF is placed in line directly under the WHILE or IF that began that block. It is common practice to follow any of the "END" keywords with a parenthetical expression to remind us of just what has ended, as you'll see in our example.

There can be several levels of indenting, but eventually you must get back to the left margin, or it's a sure bet that some loop hasn't been closed properly. Obviously, the time to discover such logic problems is here, in the design process, not when the program is half finished.

Though it's not strictly considered a part of the pseudocode, many programmers begin such documentation with a variable dictionary. This is a listing of all the symbolic variable names that will be needed in the program, what data types they are (numbers, characters), and what they actually stand for. This variable dictionary must be used by anyone who uses the symbolic variable names in the pseudocode itself, so that anyone reading it has no doubt about a reference. (*Editors' note: See Tom Enright's "Technical Forum" in this issue for a discussion of data types.*)

Below, we'll discuss a sample program and the pseudocode that describes how to write it in a structured manner. We'll see that the main logic calls several other procedures as needed, making the main logic very clear and understandable. Details of the smaller tasks are shown separately.

### The project: FIXFILE

Suppose we've used a new word processing program that has embedded a number of end-of-file (EOF) characters in our only copy of an important document file. (An EOF character is a special symbol that a computer's operating system tacks onto the end of a file so that it knows when it's reached the end.) Checking the file length by typing DIR shows that the file is as long as we remember it to be, but when we attempt to edit or print the file, we're stopped about halfway through because the software has encountered an erroneous EOF marker and thinks it's at the end of the file. This problem is not uncommon, so we decide to design a program to eliminate the false EOF markers.

An inexperienced programmer might sit right down and start typing in code, but there are a few questions that should be answered first. To make this a really professional and useful program, we should try to think of as many questions as possible before starting to write the code. (Once you've gained some programming experience, these questions will come to you naturally, but for this example, we will walk through the planning process step by step.)

For example, how should the files be handled?

Should the program open the existing file for both reading and writing, and just modify it by removing all EOFs (except the legitimate one at the actual end)? For safety and convenience, we'll solve the problem by writing a separate new file that doesn't contain the erroneous EOFs. This preserves the original file until we're sure that nothing else was changed. Once that's been determined, it's easy enough to ERASE or DELETE the original file, then rename the new one.

How do we decide how many EOFs to remove? One way to determine this would be to remove one EOF at a time and then check to see whether the new file is now as long as the original one. Since our operating system or programming language has a method for determining file lengths, it would be simplest to have the program check the length of the original file and keep removing EOFs until the new file is the same size as the old. If we decide that this can't be done easily with the language we're using, or at our present level of expertise, then an alternative would be to have the user enter the original program size along with the names of the files the program will operate on.

Our first task is to break the program down into a series of logical steps. We will do this in stages so we are sure nothing is forgotten. The first step is to make a rough outline of the program that we will be writing—the "mainline logic." You'd be surprised how many programs will fit into a pseudocode outline like the one below. In fact, many program design courses and books refer to this as *the* standard mainline logic—the first step in designing *any* program.

### MAIN LOGIC MODULE

```
START
PERFORM hsk routines
WHILE more-to-do is TRUE
    PERFORM proc
ENDWHILE
PERFORM eof routines
STOP
```

Most programs require what are called housekeeping routines (abbreviated HSK) that are performed one time only, at the beginning of a program. Examples are opening files and initializing total accumulators (variables that are used throughout a program to accumulate total costs, total weight, etc.). They're usually "initialized" (set) to a value of zero during housekeeping to ensure that our program's results aren't affected by any random values that were left in the computer's memory by some other program.

The main process of the program (abbreviated as PROC) is performed a number of times, until it is no longer appropriate to do so. Examples might be processing individual file records, printing detail lines on a report, or printing multiple copies of a document file or report.



The end-of-job routines (abbreviated EOJ) are those tasks that must be done one time only, at the end of a program. Examples are closing the files and printing final totals at the end of a report (such as the number of records read and processed).

When we think about what must be done by the program we intend to write, it's pretty clear that it will fit well into the standard mainline logic. All that remains, then, is to define the steps to be undertaken in each of the procedures, or sub-tasks.

In HSK, for example, we will want to obtain the names for the old and new files from the user (and the original file size, if it must be entered by the user). Some languages make it easy to enter these options at the command line (that is, when you type the program's name to run it); others will require that you prompt the

---

### *Most programs require what are called house-keeping routines, abbreviated HSK.*

---

user for input. We normally don't specify in pseudocode which method should be used—the programmer can code this in the way he or she prefers. HSK would also be the best place to open both files, as that's something that is done only once at the beginning of the program.

In the main process we will read each character from one file and write it to another—if it isn't an EOF marker and the new file isn't within one character of the same length as the original file. If it is an EOF marker and we are not within one character of the original file length, we skip over it and read another character. This process will be repeated WHILE the new file is smaller than the old file, minus one character.

Finally, at EOJ we need to close both the input file and (even more important) the output file.

There's no reason to change anything in our mainline logic, so we can continue our program design by adding the separate procedures.

#### HSK ROUTINES

---

```
INPUT original-file-name
INPUT original-file-length
INPUT new-file-name
OPEN input and output files
INITIALIZE character-count = zero
INITIALIZE more-to-do = 'TRUE'
READ first character from input file
EXIT
```

You'll notice that we've added a couple of new keywords to our pseudocode vocabulary, but they're easily understandable not only to us, but to anyone else who

might have to follow the logic—for example, to repair or modify the program. There are no loops; our HSK routine is a sequential process, with one step following another, and nothing is done more than once.

#### PROC ROUTINES

---

```
ADD one to character-count
IF character-in is EOF marker
    IF character-count < original-file length - 1
        SKIP to next character
    ELSE
        WRITE character-in to output file
        CHANGE more-to-do to 'FALSE'
    ENDIF (original file not ended yet)
ELSE
    WRITE character-in to output file
ENDIF (character is EOF)
READ next character from input file
EXIT
```

Notice that every IF has an ENDIF to show when statements are no longer dependent on that particular decision. In both cases above, there are things to be done when the IF condition isn't true, so we see the keyword ELSE used, too.

#### EOJ ROUTINES

---

```
CLOSE input file
CLOSE output file
EXIT
```

There's not much to do here, but that's often the case. Even in complex business or scientific programs it's common for EOJ routines just to close files and maybe print a couple of final totals.

We could certainly code this program now, and it probably would be a much finer product than we would have created by ad-libbing from the start. There are some important improvements to be made, however, and it's easiest to do it now.

### *Making a good thing even better*

Some people say that you can recognize competent engineers by the sophistication of their pocket calculators. I maintain that you can probably tell a lot about computer programmers by the size of their erasers. Let's use ours now, and make this program something special from the start.

In HSK we open files, for example, but we haven't done anything to trap errors that might arise. Not all error-handling—steps the program will take when something goes wrong—needs to be included in pseudocode, because most programmers will trap errors in simple input. For example, if we ask the user for a file size, we want a numeric value within a

*(continued on page 56)*



F

or family and friends who own computers, a computer-related gift is always both welcome and practical. On the following pages, *PROFILES* presents its annual holiday Gift Guide to give you some ideas and to help make your holiday shopping easier. The products listed here are available for both CP/M and MS-DOS systems, unless otherwise noted in the product description. It is highly recommended that you call vendors to confirm prices and to check on product availability, disk formats, and shipping and handling charges.



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Central Computer Products presents *CP/M Times*, an informative catalog packed with hundreds of CP/M software & hardware products. Something for everyone. Fast service by mail or phone.

*Central Computer Products \**  
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330 Central Ave.  
Fillmore, CA 93015

**PRO Mail, \$49.95 \***

Allows you to print out your lists and labels in alphabetical or zip code order. Has an automatic backup feature and allows for two comment fields and unlimited data files.

*Hurd Computer Systems*  
714-220-2729  
6330 Lincoln Ave.  
Cypress, CA 90630

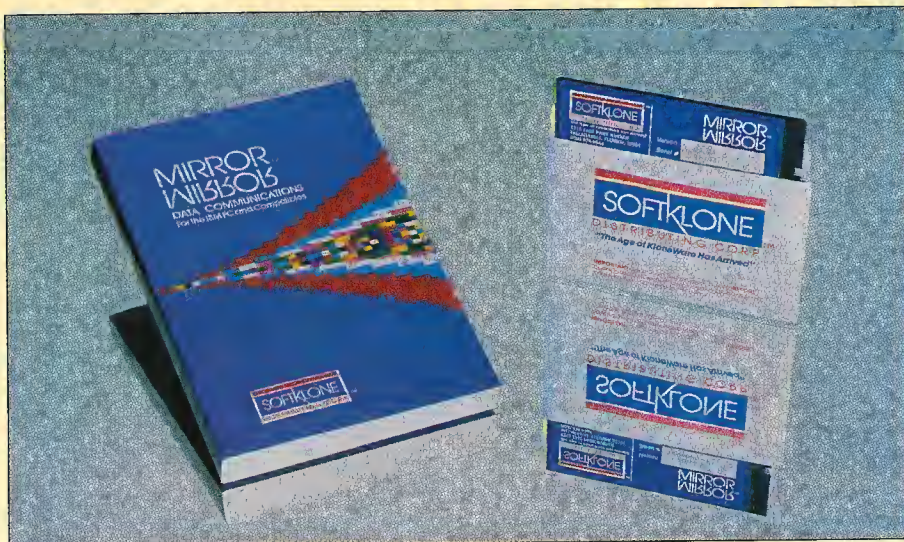
**T.L.C. Logo, \$99.95 and up**

An enhanced version of LOGO, the educational graphics language. Versions available for all Kaypro CP/M computers.

*MicroSphere, Inc.*  
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P.O. Box 1221  
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### Qwiz Writer, \$49.95 \*

An exam-writing program for teachers. Design true-false, multiple choice, essay or other test questions. Sort text for different test versions.

*Hurd Computer Systems*  
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6330 Lincoln Ave.  
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### Micro C's Public Domain Software Collection/\$8 ea. disk

An important source for carefully selected and tested public domain software for CP/M & MS-DOS Kaypros. There are disks full of games, utilities, languages, and modem software.

*Micro Cornucopia \**  
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P.O. Box 223  
Bend, OR 97709

### SCS-Draw, \$59.95

This program turns your CP/M Kaypro's screen into a sketchpad with easy-to-learn commands and a "flashing pencil point." Draw everything from individual pixels to circles and rectangles.

*Second City Software*  
312-577-7680  
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Mount Prospect, IL 60056

### Sci-Graf, \$99.95 \*

Sci-Graf is a graphics program capable of producing a variety of graphs useful for scientific data plotting on dot-matrix printers. Menu-driven for easy use.

*MSC*  
805-963-3412  
32 W. Anapamu, Ste. 190  
Santa Barbara, CA 93101

### 3DD, \$149 \*

This graphics program adds an extra dimension to Kaypro graphics capabilities. Package comes complete with one disk, a screen filter-overlay, two pairs of 3-D glasses, and manual.

*Hawaii Mountain Works*  
808-885-4607  
P.O. Box 1573  
Kamuela, HI 96743

### Rembrandt, \$79.95 \*

A complete graphics program for your CP/M Kaypro. "Full screen graphics" feature lets you print out exactly what you created on screen.

*Spectre Technologies*  
818-716-1655  
22458 Ventura Blvd., Suite E  
Woodland Hills, CA 91364





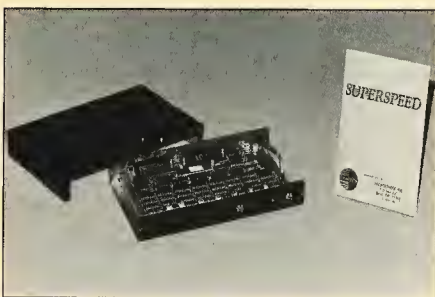
## HARDWARE:



### ThinPack 2000, \$1,395 \*

The ThinPack 2000 is a 20 MB portable hard disk/expansion system for the Kaypro 2000. Weighing less than 5 pounds, this unit offers a parallel port and a standard IBM card slot.

*Axonix Corporation*  
801-582-9271  
417 Wakara Way  
Salt Lake City, UT 84108



### ProWriter C-715 Reliant, \$1,295

A high speed, seven-color, 24-pin dot-matrix printer that uses a credit card-sized identity card, allowing users to customize the printer to meet specific needs. Provides high resolution graphics and can print in draft or letter-quality modes.

*C. Itoh Digital Products, Inc.*  
213-327-2110  
19750 S. Vermont Ave., Ste. 220  
Torrance, CA 90502

### PROTEUS, \$199 and up

Offering a parallel two-port buffer, PROTEUS lets user connect two printers or other parallel peripherals to one computer. Hardware or software switching.

*Computer Friends*  
503-626-2291  
14250 N.W. Science Park Dr.  
Portland, OR 97229

### 5MHz TurboBoard, \$74.95 \*

Double the speed of your Kaypro II or 4'83 and reduce the time needed to perform most operations. No circuit modifications or wiring are required, making the TurboBoard easy to install.

*Advent Products, Inc.*  
714-630-0446  
3154-F.E. La Palma Ave.  
Anaheim, CA 92806

### Accelerate 8/16, \$99.95 \*

A high-performance CP/M emulation hardware/software package for MS-DOS computers. Complete with NEC V20 processor chip, Media Master 4.0, and ACCEL software.

*Intersecting Concepts*  
805-529-5073  
4573 Heatherglenn Ct.  
Moorpark, CA 93021

### SuperSpeed RAM disk/printer buffer, \$245 and up \*

The RAM disk will speed up any program on your Kaypro that requires disk access. The printer buffer holds and transmits printer information, freeing your computer and allowing you to work while you print.

*MicroSphere, Inc.*  
503-388-1194  
P.O. Box 1221  
Bend, OR 97709



### TurboROM, \$79.95 \*

Packed with 28 features, the TurboROM is a useful addition to any CP/M Kaypro. Features include screen saver, screen dump, ZCPRI, and faster disk operations.

*Advent Products, Inc.*  
714-630-0446  
3154-F.E. La Palma Ave.  
Anaheim, CA 92806

### TravelComm 1200, \$249 \*

A battery-operated 1200 baud modem that weighs only 6 oz. and is smaller than a pack of cigarettes. Works with virtually any computer with a standard RS-232 port.

*Traveling Software*  
206-483-8088  
19310 North Creek Parkway  
Bothell, WA 98011



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## ACCESSORIES:

### Add-3 Kit, \$1,995

Share your Kaypro with friends, family, and co-workers. Add-3 Kit turns your Kaypro into a full 3-user system. Includes Add-3 circuit board, 2 Kaypro-compatible terminals, cables, and do-it-yourself installation guide.

*Video Microsystems, Inc.*  
206-842-0733  
14635 Sunrise Dr. N.E.  
Bainbridge Island, WA 98110

### Kay Plus ROM set with QP/M, \$149.95

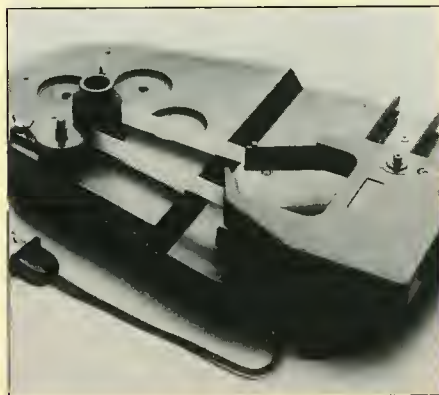
An enhanced replacement for your existing Kaypro ROM set. QP/M is an enhanced operating system with extensions such as date stamping and auto disk re-logging and is fully compatible with CP/M 2.2.

*Emerald Microware*  
503-642-1860  
P.O. Box 6118  
Aloha, OR 97007

### Turbolink 1200

A Hayes-compatible modem with speaker, LEDs, telephone cable, power supply and 1 year warranty.

*Spite Software*  
503-245-8102  
4875 SW Nineteenth Dr.  
Portland, OR 97201



### Computer/printer stands, \$29.95 and up \*

Break-resistant 1/4-inch acrylic stand for computer, printer or both.

*Ohio Plastic*  
216-882-6764  
6140 Manchester Rd.  
Akron, OH 44319



### Dust covers, price depends on size/model

Urethane-coated packcloth dustcovers for protection against dust and moisture. These covers have double-stitched seams and are water- and tear- resistant for durability.

*ABCOM*  
619-872-1946  
2333A N. Sierra Highway  
Bishop, CA 93514

### Printer/computer carrying cases, \$49.95 and up \*

Highly versatile carrying cases, built with the ruggedness and durability to withstand U.S. Marine field conditions. Four attractive colors.

*CD Marketing*  
404-399-5515, ext. 25  
1532 Dunwoody Village Pkwy., Ste. 204  
Dunwoody, GA 30338



### MacInker, \$68.50 for motorized base and cartridge kit \*

#### \$66.95 for spool version

Simply load cartridge or spools onto MacInker, fill ink reservoir and turn on motor. MacInker re-inks ribbon, prolonging the life of the ribbon 50-100 times.

*Computer Friends*  
503-626-2291  
14250 N.W. Science Park Dr.  
Portland, OR 97229

### Safe-Bloc, \$19.95

Safe-Bloc offers multi-purpose, line-to-line protection and has six outlets and an indicator light. Designed to offer basic protection for computer, VCR, stereo, and other home electronic products.

*Curtis Manufacturing Co., Inc.*  
603-924-7803  
305 Union St.  
Peterborough, NH 03458

### Floppy On Board, \$3.50

Each Floppy On Board features a witty computer phrase on a genuine, usable yellow floppy disk and offers a creative outlet for the expressive motorist. "Hi-Tech Baby on Board" and "I'm User Friendly" are two of the many favorites.

*Passez-Sonna Co.*  
213-539-9577  
2458 Lomita Blvd., Ste. 124  
Lomita, CA 90717

### "Up and Running on Wordstar," \$29.95

Introducing an easy-to-understand, 27-minute video (VHS or Beta formats) on how to use WordStar. This video will take you from turning on your computer through the printing of a business letter. A must for training office staff or for use at home by the family. MS-DOS or CP/M.

*Kaypro Corporation/"Up and Running with WordStar."*  
800-452-9776  
533 Stevens Ave.  
Solana Beach, CA 92075

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on 2 popular Advent products:

- 5 MHz TurboBoard – \$69<sup>95</sup> (Reg. \$74<sup>95</sup>)
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Any product we advertise  
Free Gift Wrapping for Christmas

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## 10% OFF

ThinPack 2000 20MB Hard Disk  
Complete with parallel interface and  
IBM expansion slot for use with Kaypro 2000.

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**Axonix Corporation**

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Accerate 8/16, Media Master,  
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**Intersecting  
Concepts**

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## FREE ACCESSORY BAG

for disks and cables  
with any order over \$45. Bag will match your  
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quality, water-resistant fabric.

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## OUTLINE PROCESS FOR LESS!

Out-Think (Reg. \$69<sup>95</sup>) Now Just \$59<sup>95</sup>  
Kamas Combo (Reg. \$129<sup>95</sup>) Now Just \$109<sup>95</sup>

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**KAMASOFT™**

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## 10% DISCOUNT

SCS-Draw, FontStar, Print Master,  
Decision Analyst, MITE, and all 42 educational  
programs from Resource Software Int'l.

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When you purchase any 2 or more items  
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Church treasurers note! Automate  
that church job. Demo disks available.

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**EZ Systems, Inc.**

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## MS-DOS SAMPLER DISK Just \$2

A 5¼" disk featuring public domain software –  
games, utilities, tools

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# HOLIDAY COUPONS

## 10% OFF

Any size RAM disk.  
Up to 1MB memory, includes printer buffer  
for Kaypro 1, 2x, 4-84, 2-84, 2-83, 4-83 and 10

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**MicroSphere, Inc.**

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## 15% OFF

Financial Filer/Check/Ledger.  
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checkbooks and tracking expenses for  
budgets or taxes.

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**Woodsmith  
Software**

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## 10% OFF

Computer/Printer Stands & "All-in-one"  
For Models 2, 4, 10, 16, PC  
No assembly required.

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**Ohio Plastic**

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## SAVE 10%

On new subscription orders  
Reg. \$25<sup>00</sup> - Now JUST \$22<sup>50</sup>

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**Profiles  
Magazine**

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## 40% OFF

Personal Pearl - A complete 7-disk data base  
manager just \$17 (Reg. \$28)  
(\$14 additional for Kaypro format conversion)

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**PDSC Co.**

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## 10%-50% OFF

50% OFF • Rembrandt Complete Business Graphics Toolkit  
Just \$39.95 (Reg. \$79.95)  
• Rembrandt II/IV for Earlier, Pre-Graphics Kaypros  
Just \$44.95 (Reg. \$89.95)  
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**Spectre  
Technologies**

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## 25% OFF

3DD - A new 3-D graphics program for  
Kaypro CP/M computers with  
graphics capabilities (2-84, 4-84, etc.)

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Mountain Works**

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## 10% OFF

Turbolink 1200 modem, cable, software  
100% Hayes-compatible. Software available  
for most CP/M, MS-DOS, Macintosh computers

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**Spite Software**

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## CHRISTMAS SPECIAL!

Buy a Universal MacInker and get \$35 off  
the price of our Mercury Modem  
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**Computer  
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## \$50 OFF

TravelComm 1200 (Reg. \$249, Now \$199)  
A battery operated 1200 baud modem that  
weighs only 6 oz.

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# HOLIDAY COUPONS

**\$10 OFF**

Softklone's Mirror data communications software (Reg. \$69<sup>95</sup> - Now \$59<sup>95</sup> plus S & H)  
Limit one coupon per customer, per purchase

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**\$10 OFF**

FMT Text Formatter (Reg. \$50)  
Formats text easily without remembering  
printer control codes. CP/M and MS-DOS versions.

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**Advanced Software  
Int'l, Inc.**

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**FREE SOFTWARE!**

With any order \$25 or more, pick a FREE  
Xpert Pak (Reg. \$9<sup>95</sup>). Choose from games,  
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**Xpert Software**

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Milestone Project Planner (Reg. \$99)  
Highest rated of all project software  
reviewed by INFOWORLD.

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2 FREE FONT DISKS (#1 and #2)  
with purchase of Fancy Font.

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 **SoftCraft, Inc.**

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**SAVE \$24<sup>95</sup>**

Buy KayPlus ROM set with QP/M for only \$125  
(Reg. \$149<sup>95</sup> if purchased separately)

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**\$40 OFF**

Write-Hand-Man  
The only user-extendable desk accessory package  
for CP/M.

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**Poor Person  
Software**

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Real Estate HUD-FORM Template (Reg \$95)  
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escrows, additions, and other data.

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**HUD-FORM  
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**20% OFF**

All Graphics Software:  
SCI-GRAF - Scientific data plotting.  
GRAF 3.0 - General purpose printer graphics  
program producing pie, bar, line and scatter plots.

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**MSC** Microcomputer  
Systems  
Consultants

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# PROFILES

The Magazine For Kaypro Users

If you own a Kaypro computer, your first six issues of PROFILES won't cost you a penny!



## CP/M USERS!

That's right! If you bought a Kaypro computer, the cost of a six-issue subscription to PROFILES Magazine was included in the purchase price.

PROFILES is the only international magazine dedicated exclusively to serving the needs of Kaypro computer users. Each month our special features, columns, and new products listings keep you up to

date on the latest developments in Kaypro-compatible products. Our how-to articles provide users with step-by-step instructions for making the most of hardware and software available for the Kaypro. PROFILES is sure to enhance your efficiency and enjoyment of your Kaypro computer.

Ordering PROFILES is EASY! If you sent in your warranty card,

## MS-DOS USERS!

you should be on our mailing list. If you haven't received your first issue yet or did not send in your warranty card, please fill out the form below and send it in. We'll take care of the rest.

We must have accurate serial numbers and zip codes to begin introductory subscriptions. Please allow 10-12 weeks for delivery. Note: the introductory subscription begins with the first issue you receive in the mail and has no relationship to the complimentary issue packed with your machine.

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(Last) (First) (M.I.)

Address: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_

Signature: \_\_\_\_\_

Serial Number: \_\_\_\_\_ Model K-\_\_\_\_\_

☐ YES, I own a Kaypro. Please begin my introductory six-issue subscription. (International subscribers add \$10 for postage.)

☐ NO, I don't own a Kaypro. Please begin a one-year (12 issue) subscription. Enclosed is a \$25 check or money order made payable to PROFILES. (International subscriptions are \$45, including postage.)

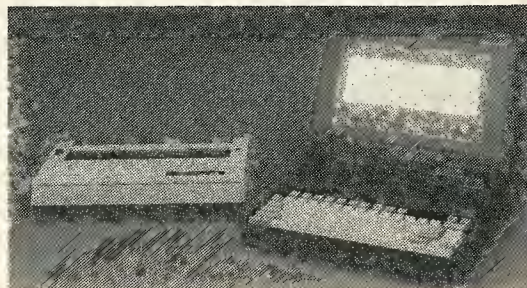
I am interested in the CP/M MS-DOS operating system. (CIRCLE ONE)



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## Five reasons to buy the **Axonix ThinWrite 100 Battery Powered Printer:**

1. **Impact Printing** provides lower media costs, crisper printouts on ANY paper stock, and operation in harsh environments.
2. The **Wider Carriage** accommodates various form types including multicopy and 10 inch fanfold.
3. The ThinWrite Provides **Highest Resolution** for Epson/IBM graphics and **near letter-quality** in a portable printer.
4. You Will Have **Nation-Wide Service** available from **CENTRONICS** service centers.
5. Both **Serial and Parallel Communications** are provided as a standard feature.



## See your display in ANY LIGHT!

We backlight your Kaypro 2000 with an electroluminescent panel. We guarantee a 1 week turn around. And you'll receive the same high quality you've come to expect from **Axonix**.

The Thin E/L 2000 is priced at \$300 Salt Lake City, Utah. Return shipping is included. The ThinWrite 100 Battery Powered Printer is priced at \$479 F.O.B. Salt Lake City, Utah.

**15 day free trial on standard products.**

**Dealer Inquiries invited.**



**Axonix**

*The Portable Peripherals People.*

417 Wakara Way  
Salt Lake City, Utah 84108

**Call (801) 582-9271**

## STOCK MARKET

programs for fundamental analysis, 55 for technical analysis, and 41 portfolio managers. Add in the 14 "integrated" systems and 36 online data services and you have quite a pile. Real estate and tax planning are also ably covered.

I haven't reviewed more than a fraction of what's available, but I'll share what I've seen—and some of it is especially good.

### Picking stocks

Deciding which stocks to buy isn't as easy as it sounds. About 1,500 companies trade on the New York Stock Exchange, the American exchange trades another 800, and the over-the-counter market in your local newspaper (called NASDAQ) trades as many as both major exchanges put together. And that's just the major exchanges.

Stockbrokers sift through a few of these stocks and publish "buy-and-sell" lists, but they seldom agree with each other, and they certainly don't cover the territory. Merrill Lynch says, "Buy ABC Corp.," while Smith Barney says, "Sell ABC Corp.," and neither one has looked at XYZ. You can't just use somebody's "hot tips"—you have to make your own decisions.

Programs called "stock screens" are your best bet. They sift through the 9,100 or so stocks traded in the United States and Canada to find those few that fit your investment criteria.

Let's say you're looking for a small company with a

strong balance sheet whose earnings have increased by ten percent every year for the past five years—typical for "growth" stocks. And you want it cheap (a low price/earnings ratio).

Screening the 1,600 stocks that account for over 90 percent of all exchange trading, you find only seven that meet your criteria. Now it's easy to look at each of them in more detail, to see if any are worthwhile.

Or suppose you want a company with little debt (so it can weather any financial storm), a high dividend, and a low price. There are ten, including two of the biggest companies in America. Asking for financially strong companies selling for less than their book value (the sale price of the company's assets) gets you 16 to choose from.

With that in mind I would like to introduce to you Value Screen Plus, Stockpak II, and The Savant Fundamental Investor. These three MS-DOS programs screen stocks, as does CompuServe's Executive Service (which works with any computer).

The prize for ease of use goes to Value Line's Value Screen Plus, which sends you a disk of data on 1,600 major corporations each month. Within half an hour of booting the program I had built and printed five different screens—a lot better than sifting through financial reports by hand. Unfortunately, Value Screen Plus only provides 37 facts about each company—29 when you eliminate certain non-financial data. It lacks many of the ratios I like to look at, such as return on equity.



For thoroughness I like Standard & Poor's Corporation's Stockpak II. Its monthly data disks provide 51 financial facts about each company, plus 43 ratios (price/book, cash per share, etc.). And you can construct your own ratios, making your screens more effective. Stockpak II covers between 800 and 2,200 companies, depending on how much you pay.

Savant Corporation's Fundamental Investor is also powerful, but pricey—you buy the program and data service separately. You have to build financial ratios yourself, though several statistical routines are included to make your job easier. Once the ratios are built, you have tremendous flexibility.

You can get your data either on disk or online from Warner Computer's Disclosure II data base. Data alone will cost you as much as Stockpak II's entire program. Fundamental Investor also requires a color graphics card.

*If you use CP/M and  
you don't look at new  
stocks very often, then  
CompuServe is for you.*

If you don't look for new stocks very often, or if you have a CP/M machine, CompuServe's Information Service is your best bet. Its data base covers all 9,100 companies and is always fresh, but you can only screen on 22 financial variables. You pay by the screen: \$5 plus 50 cents per company chosen (during off-peak hours), plus connect time, which runs ten or 20 cents per minute depending on the time. You have to sign up for the Executive Option, which commits you to spending \$10 per month on CompuServe. (Type GO COSCREEN at any prompt; GO SCREEN gets a securities screen that is nearly useless for this kind of analysis.)

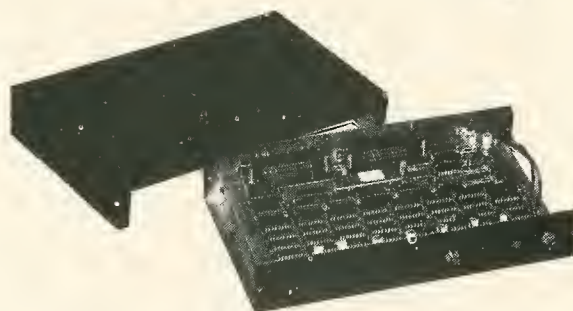
### Evaluating stocks

Once you've narrowed your potential stocks down to a dozen or so, you have to decide whether they are really worth your money. They may be cheap for a good reason.

Here the software gets a bit thinner, perhaps because stock picking is as much an art as a science. If there were a formula that worked every time, who would be such a fool as to sell it? Although there is no sure-fire way to evaluate stocks, some programs can help you.

Evaluation Form, available in CP/M and MS-DOS, uses the investment system of the National Association of Investment Clubs to rate stocks for potential growth. You enter financial data obtained from Standard & Poor's or Value Line reports, which are available from stockbrokers or public libraries. (Disclosure II—available online from several services—costs too much and won't do the job.) Then the program prints out recom-

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mended buy and sell prices, plus a list of 13 "flags"—potential trouble spots to be checked before investing.

You are encouraged to find out why a flag was raised rather than just reject a company that doesn't pass all the tests. After all, a company's stock may be cheap because investors are reacting to a problem well on the way to being solved. If you know the solution is coming, you can get in on the ground floor.

Evaluation Form is oriented toward growth companies, but it can be used for more established firms.

The Market Pac, available in CP/M and MS-DOS from Computronics, provides a much less integrated approach to stock evaluation, but one that will appeal to the truly independent. It contains 37 BASIC programs to determine rates of return, estimate future earnings per share, analyze annuities, etc. The American Association of Individual Investors (AAII) publishes a set of similar programs for both CP/M and MS-DOS. AAI's package costs less, but the two products cover different territory. (See box on page 53 for more on AAI.)

### Technical analysis

Now you've chosen your stocks. When should you buy them?

Technical traders look to changes in a stock's price, its trading volume, and the general direction of the market to guide purchase decisions. It's not a bad idea—you do want to buy low and sell high, after all.

For example, if the price of a stock has been following an upward trend, the price now will be above its average price for the last 39 (or 13, or four) weeks. As it rises higher, that 39-week average moves up—a "moving average." Each week you figure the average by adding in the new price and dropping the oldest week's price. When the current price drops below the moving average, the trend of ever higher prices is reversed, and it's time to sell.

Conversely, when a stock's price rises above a falling moving average, its downward trend is broken, and it is time to buy.

The moving average is only one of a technical trader's tools; point-and-figure charts, price-volume charts, and oscillators, among others, all provide important investment clues.

A good program should give you lots of different charts and the ability to determine your own time periods—not just the ones the programmer thinks are best. You should be able to enter data daily or just weekly. Usually you will want to download your data from an online service. Only masochists like to enter two years' worth of daily data by hand.

Market Analyzer PLUS (MS-DOS) collects stock information from the *Dow Jones News/Retrieval System* and produces a great number of charts for the stocks, bonds, and options that you choose, or for the market as a whole. You pick your stocks (or use a list you have stored), and chart them individually or compare them for relative strength. You can either display or

print the charts (on an Epson or IBM printer). The program is fast and relatively easy to use. Once you get proficient, you can automate the process: If you have a hard disk, an auto-dial modem and a clock/calendar—and all of your equipment turned on—you don't even have to be present. If you want, you can download your data to a spreadsheet or data base manager for further analysis.

Market Analyzer PLUS can also keep track of your portfolio (real or imagined), update its profit and loss status and print a capital gains report that will be acceptable to the IRS. It keeps track of dividends (if you enter them), but doesn't print a dividend report.

Standard and Poor's Trendline II (MS-DOS) also collects its data online, but from Warner Computer Systems. Warner is a bit cheaper than Dow Jones, and the program comes with one to ten years of data on the companies making up the Standard & Poor's 100 index. You can update your files as often as you like, and you're only charged for new data.

---

*Compu/CHART runs on all  
Kaypros and lets you  
make do with the hard-  
ware you already have.*

---

Trendline II also requires an Epson or IBM printer, although it doesn't print nearly as many charts as Market Analyzer PLUS. You can chart an individual stock or compare two stocks, showing their trend lines, moving averages or strength relative to a market indicator (such as the Standard & Poor's 500 index). You can also chart trading volume, but not point-and-figure. This is probably enough for the beginning technician, however.

Savant's Technical Investor (MS-DOS) is the most powerful of the three, though it lacks Market Analyzer PLUS' portfolio manager. You have your choice of three online data services and can merge files pulled from different sources. You can gather data with Technical Investor, feed it to dBASE III (or any program that accepts DIF files), manipulate it, and pull it back in again for charting. Pretty neat if you're a fanatic technician. And it supports several dot-matrix printers, not just Epson or IBM.

Technical Investor offers a 30-day trial period, and Trendline II offers a \$30 trial version. All three programs require an IBM-compatible color graphics card.

What are CP/M users and those who don't want to shell out for color graphics cards to do? Compu/CHART is a courageous attempt to allow you to make do with the hardware you have. The three versions of the program run on *all* Kaypros and provide progressively greater charting and data-entering ability at progressively higher prices.



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We know that floppy disk users don't appreciate shuffling four or five disks in and out per application. We know that no users like to abort in the middle of an application to change printer pitch. We know that users don't like copy protection and complex licensing agreements. We don't believe that any systems with these 'features' can be considered easy to use so we left them all out of CPI Business Systems.

Fancy packaging and expensive type set manuals add greatly to the cost of most application packages but have little lasting value. Once your system/s are up and running for a week or so their real worth is their day-to-day productivity and responsiveness; the other materials gather dust. CPI Business Systems include **comprehensive manuals, sample data files, tutorial sessions, etc.—everything you need is included.**

No system is perfect; CPI Business Systems are not exceptions. That's why users are entitled to support when they need it and that's why CPI continues to enhance each system regularly based on user's suggestions.

Most users need a little support when getting started so we include 45 days of FREE support with each application. Others charge hundreds of dollars extra. Users of CPI Business Systems can extend support for a full year for less than ten cents per day per application.

CP/M users may become MS-DOS users in the years ahead; CPI has planned ahead for this possibility and we provide data file conversion service to any user. CPI will, however, continue to support and enhance these fine systems for CP/M users for years to come. Your investments today will not be obsoleted by tomorrow's technology.

These powerful systems are described briefly below. If you don't feel confident yet ask for our 30+ page overview or try an application demo system at half price (demo prices apply to future system orders).

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#### \$80.00 CP/M ACCOUNTS RECEIVABLE \$100.00 MS-DOS

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#### \$80.00 CP/M PAYROLL \$100.00 MS-DOS

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#### \$80.00 CP/M ACCOUNTS PAYABLE \$100.00 MS-DOS

Improve your cash management with this fine system. You'll get the up to date accurate picture of accounts to be paid, cash requirements for the data on file. Payments and notes vouchered automatically insuring timely payments. Complete check writing included. The system reports include Vendor File Lists, Open Vouchers, Ageing By Due Date, Discount Date Ageing, Cash Requirements, Check Registers, G/L Transaction List, Query Vendor Status, Credit Vouchers, Deleted Vouchers. CAPACITIES of 600 Vendors, (CP/M), 2000 Vendors (MS-DOS) - no limit on transactions.

#### HARDWARE REQUIREMENTS

CP/M: 64K (53K TPA) & CP/M 2.0 or higher.  
MS-DOS: 128K (or more) & MS-DOS/PC-DOS 2.0 or higher - ANSI.SYS.  
Printer: 132 columns (compressed pitch supported), continuous forms.  
Disk/s: Dual Floppies/Hard Disk/Both - 191K recommended, less works.  
CRT: 80/24 with Clear, Home, Clear to EOL, Up, Down, Left, Right.

## CURRENT UPDATE:

NEW A/R SYSTEM FOR CP/M AND MS-DOS USERS NOW SHIPPING. NEW FEATURES INCLUDE 4 LINE NAME AND ADDRESS, FINANCE CHARGES, VARIABLE AGEING, DESCRIPTIVE BILLING, ASCII OUTPUT FILES, MULTI-CLIENT PROCESSING. MANY NEW REPORTS, ITEM INVOICE FORMATS, SERVICE INVOICE FORMATS, STATEMENT FORMATS, ETC. FOR PLAIN PAPER AND MANY POPULAR PRE-PRINTED FORMS. TAXABLE AND NON-TAXABLE ITEMS ON SAME INVOICE. FLASH REPORTING TO SCREEN OR PRINTER; MORE ...



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**PRINTER CHARACTER SET** \$34.50 The easiest way to get more from your dot matrix printer with eleven new print styles, and a menu of printer control features like pitch, linespacing, form length and more. Change to the custom font as easily as changing pitch. Prints as fast as your regular fonts, but now your printer will know how to print Script, Roman, Italics, Small, Correspondence, Gothic and even foreign languages with optional fonts like Russian, Greek, Hebrew and Scientific (\$15.00 each).\*

**CHARACTER DESIGN KIT** \$44.50 Easily design your own printer characters right on your screen. Includes graphics character sets and works with Printer Character Set fonts (use them as a base for your own fonts). So easy to use, designing characters becomes fun.\*

**TYPE-WRITE** \$34.50 & **TYPE II** \$49.95 The solution for the typing jobs 'word processors' can't handle and with a built in tape printing calculator. Works like a one line editing typewriter, making labels, envelopes, forms and letters fast and easy. **TYPE II** includes a form printing function that prints letterheads, labels, preprinted forms, anything you want with a touch of a key.

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\*Okidata 92, 93, 192, 193, Star Micronics SD, SG, SR, Gemini 10X, 15X, Epson FX, LQ. (R). IBM Proprinter. Panasonic 1092 (R)

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### STOCK MARKET

At the time of this writing, Compu/CHART 3—which can retrieve data from online services—was not yet released. Compu/CHART 2 provides moving averages, support/resistance levels, oscillators, point/figure, and price/volume charts, all based on data entered by hand. These charts aren't so complex as the preceding programs' and only plot 144 data points (two and a half years' worth of weekly data or 2/3 of a year of daily data), but often that is enough. You can compare stocks to one another or to a market index. And Compu/CHART 2 works with all printers, even daisywheels.

If I were into charting, I would probably go with Compu/CHART, since I use CP/M, though I'd wait for version 3. I'd recommend it more heartily if it were not copy-protected and if its manual were less amateurish. But it beats out its competition in the non-graphics market.

I must confess, though, that I don't like technical analysis. I lose too much on commissions trading into and out of the market, and I just don't like to think about my investments *every day*.

Besides, individual investors will never be able to compete with the big fish. Recently a 46-point drop in the Dow—which had, as one broker put it, "the glide path of a brick"—was caused by big technical traders jumping out of the market in favor of market index options. No thanks! I'm going to stay out of the way. But

if you think you can dodge bricks better than I, technical programs may interest you.

### Portfolio management

Now that you have picked your stocks and bought them, you have to keep records. If you use MS-DOS and want a complete financial package, I'd recommend Managing Your Money (from Micro Education Corporation of America). It does everything from keeping track of your investments and writing your checks to planning your retirement and insurance needs—all with grace and style. The manual is too small, but typing ESCape anywhere in the program gives you the best in-context help I've ever seen. I like it so much, I'm giving it to Dad for his birthday. It's both easy to use and financially sophisticated—just what he needs. Its capital gains report will satisfy the IRS, though one has to work harder on interest and dividends. All in all, it's a good buy.

If you want a more streamlined package or have a lot of stocks to follow, you might look at Dow Jones' Market Manager PLUS (MS-DOS). It's harder to use but much faster than Managing Your Money. You can manage up to 26 portfolios (255 on a hard disk) and can record current stock values automatically through the Dow Jones News/Retrieval Service. You can also get the Dow Jones news updates on any of the companies you



follow—useful if you are an active trader.

Unfortunately, the program does not handle mutual funds well, though it handles options, bonds, and short selling. It will also print tax reports, but they are not acceptable to the IRS as is. It can print an audit trail, but not a dividend summary. Holdings and current gain/loss reports are good, however. The program will alert you if stocks rise or fall beyond certain levels you specify, and it can summarize commissions. A modem plugged into COM1 is required.

The version of Market Manager PLUS described above will run on MS-DOS computers, but it does *not* run under MS-DOS—it runs under the P-System, which is provided with the software. As of September, the P-System version of Market Manager PLUS was discontinued. At the same time Dow Jones issued a new version (2.0) of Market Manager PLUS that is designed for and runs under MS-DOS. In all, the program is good for professionals, but I'd like to see a better manual and help screens before I'd recommend it to the average investor.

StockChip (from Stanton Software; CP/M and MS-DOS) is simpler—and cheaper—than either of the

## Some information on AAI

The best source of investment advice I've found is the *American Association of Individual Investors*. Their journal appears ten times a year and is full of the background information you need to make good investment decisions. It does not pick stocks—stock pickers are a dime a dozen, though good ones are rare. But it, and its companion newsletter *Computerized Investing*, can educate you. An educated investor is, in the long run, a richer one.

Of course, you should never depend on just one source for anything. AAI focuses on the stocks of small companies, not big ones. And it doesn't cover investments in real estate, currencies, precious metals and so on. But its approach is backed by considerable academic research and is much more sensible than anything else I've come across.

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- Supports service or inventory billing
- Prepares customer statements with dunning notes
- Maintains full cash flow analysis
- Prepares mailing labels and customer lists

#### Accounts Payable

- Cash disbursement management for all vendors
- Supports hand written checks
- Automatically posts recurring invoices monthly
- User defined aging periods
- Prints vendor mailing labels and lists

#### Payroll & Job Costing

- Supports labor related job costing
- Maintains federal, state and local tax tables
- Handles vacation and sick leave time
- Prints W-2 forms and 941 information

#### Inventory

- Up to 12 digit alphanumeric part numbering
- Supports standard / average / suggested resale costing methods
- Integrated with Sales and Purchase Order systems

#### Purchase Order

- Maintains PO and Inventory files
- Prints confirming POs
- Prints price variance report by part number
- Maintains vendor purchase history

#### Order Entry & Sales Analysis

- Supports ordering and shipment of stock and non-stock items
- Handles partial shipments / cancellations / changes of any SO
- Automatic credit checking during SO entry / invoicing / billing
- Provides extensive sales analysis reporting
- Maintains MTD billing and booking totals
- Line item/total invoice discounts during SO entry and / or invoicing

#### Point of Purchase (optional)

- Entry of invoices posts to all pertinent modules
- Invoices stock / non-stock items
- Line item discount and tax application
- Verifies customer credit limits
- Supports cash / check / credit card / payment on account and returns
- Controls electronic cash drawer

Trademarks: CP/M - DRI; dBASE - Ashton-Tate; MS-DOS - Microsoft; PC-DOS - IBM

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above, though the version I saw only handles stocks, not bonds, options, short sells or mutual funds. (Stanton Software also produces StockChip PLUS, which supposedly handles these investments.)

I really gave this program a workout. I entered three years' stock transactions and quickly found some flaws. The biggest problem is data entry. If you make a mistake, you have to re-enter the transaction from the beginning. You can only correct the transaction you last entered; if you find a mistake a few months back, you have to erase backward, fix it, and then enter everything again. And if the stock didn't cost you anything (was a gift or stock dividend), the program bombs when it tries to divide by zero.

On the other hand, you can send StockChip's capital gains and dividend printouts right to the IRS.

## Other aids

Two other programs deserve mention. Financimetrix's Solo (CP/M and MS-DOS) analyzes the cash flow and profitability of various investments. You enter your costs, any continuing expenses, expected profits, and tax bracket, and the program projects your yearly gain or loss for up to 30 years. You can build portfolios and run complex "what if" scenarios with ease.

Though I wouldn't use it for the stock market, Solo is an excellent aid to investments in real estate, tax shelters and so on.

C.R. Hunter and Associates' The Permanent Portfolio Analyzer (MS-DOS) looks at the long-term consequences of inflation for your investments. Based on an investment strategy developed by prominent investment adviser Harry Browne, the program predicts your net worth under any of five inflation scenarios: level inflation, rising inflation, hyperinflation, a "soft landing," and a deflationary crash. Each scenario calls for a different investment mix among stocks, bonds, metals, real estate, and so on. You can enter the scenario you expect, then balance your portfolio accordingly.

Unfortunately, the program was written several years ago, and its built-in prices are out of date. But you can change nearly all the program's assumptions and still profit from its forecast.

## That's all

I've just scratched the surface. Many of these programs deserve fuller reviews, and I only looked at a few of the programs that are available—particularly for MS-DOS. Now that you're oriented, I suggest you try out programs at your dealership, and then make the plunge. ■

*Jim Spickard periodically reviews software for PROFILES.*

## Quick Reference Summary

**Product:** Compu/CHART 1, 2, & 3 (CP/M & DOS)  
**Manufacturer:** NewTEK Industries  
 P.O. Box 46116  
 Hollywood, CA 90046  
**Phone:** (213) 874-6669  
**Sugg. List Price:** 1—\$99.95, 2—\$199.95, 3—\$299.95 (\$60 Kaypro discount on v.3 until Dec. 31, 1986)

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 Westport, CT 06880  
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 Princeton, NJ 08543-0300  
**Phone:** (800) 257-5114  
**Sugg. List Price:** Manager—\$249, Analyzer—\$349

**Product:** Market Pac (CP/M & DOS)  
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### PSEUDOCODE

(continued from page 33)

reasonable range, and we should continue asking until we get a proper value. File error handling is more complex, though, and if such a feature is to be included in a program (and it should be), then it deserves to be described in the program logic.

If we try to open an input file that does not exist, our computer's operating system will complain, and justifiably—it is difficult to read characters from a file that isn't there. Since the user will probably need to look at a file directory to see how the file name is spelled, we have a couple of options. If we and our language are capable of it, we can read a disk directory and display it for the user, then prompt again for a file name. If that is beyond our current capabilities, the next best thing is to print an appropriate error message and gracefully exit the program. Then the user can find the correct file name on his own and re-run the program.

The output file is a different matter. Here we want to create a new file. If the file exists already, re-using the same name will certainly destroy whatever is in the existing file. If our program tries to open an output file that already exists, we must ask the user whether he really wants to use that name (which is entirely possible), and give him a chance to specify a new name if he doesn't. This kind of double-checking is called making a program "bulletproof." What that really means is that we prevent users from shooting themselves in the foot by not issuing them ammunition.

The pseudocode for these enhancements would look like this:

```
OPEN input file
WHILE file-doesn't-exist error occurs
    WRITE error explanation
    READ disk directory
    WRITE disk directory listing to screen
    INPUT new file name
    IF new-file-name is 'quit'
        SET more-to-do = 'FALSE'
        EXIT to the operating system
    ELSE
        OPEN input file with new name
    ENDIF (new name is 'quit')
ENDWHILE (file doesn't exist)
```

```
OPEN output file
IF file-already-exists error occurs
    WRITE error explanation
    INPUT new file name
    OPEN output file
ENDIF (file already exists)
```

Significantly, the first error is handled in a WHILE loop, as an existing file must be named for program input. We have to keep trying until the user names a good file, or gives up and enters something like "quit."



The output file name editing is done with an IF decision, as it's entirely possible that the user really does want to re-use an existing output file name. If after being warned the user specifies the same name again (or lets the program default to it by just pressing the RETURN key) then we just go ahead and use it. If the user blew it—well, we warned him.

The PROC logic is sound, so now let's consider a nice touch for the EOJ routines. Since the EOJ process may take a while, especially if the file is big and the program is written in interpreted BASIC (renowned for its slow execution speed), why not sound the terminal bell (beep) a few times when the program is through? Then we can sit back and relax, knowing that we'll hear the beeps when the file has been fixed. In most languages it's a matter of writing a character with the ASCII value of 7 to the standard output, and in some BASICs, like GW-BASIC for MS-DOS Kaypros, there's even a BEEP statement to take care of it.

Though some texts tend to portray the program design process as sequential, it is really iterative. We can go back at any point and correct something or add new features. It's best to do this correcting and addition while our program is still in the design stage. Making these kinds of changes after you have started writing the code costs a lot of time.

Here's our complete program to clean up damaged files, with the mainline logic routine renamed as the program. As you glance through it, picture how easy it would be to write this program in your favorite language.

#### PROGRAM: FIXFILE

##### START

```
PERFORM hsk routines
WHILE more-to-do is 'TRUE'
    PERFORM proc
ENDWHILE (more to do)
PERFORM coj routines
STOP
```

##### HSK ROUTINE

```
INPUT original-file-name
INPUT original-file-length
INPUT new-file-name
OPEN input file
WHILE file-doesn't-exist error occurs
    WRITE error explanation
    READ disk directory
    WRITE file listing
```

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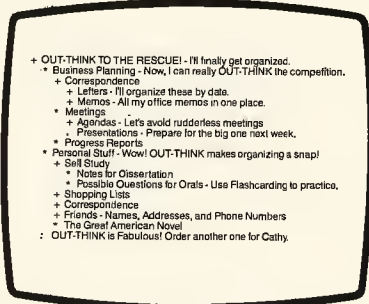
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## PSEUDOCODE

```

INPUT new file name
IF new-file-name is 'quit'
    SET more-to-do = 'FALSE'
    EXIT
ELSE
    OPEN input file
    ENDIF (new file name is 'quit')
ENDWHILE (file doesn't exist)
OPEN output file
IF file-already-exists error occurs
    WRITE error explanation
    INPUT new file name
    OPEN output file
ENDIF (file already exists)
INITIALIZE character-count = zero
INITIALIZE more-to-do = 'TRUE'
READ first character from input file
EXIT
    
```

### PROC ROUTINE

```

ADD one to character-count
IF character-in is EOF marker
    IF character-count < original-file length -1
        SKIP to next character
    ELSE
    
```

```

        WRITE character-in to output file
        CHANGE more-to-do to FALSE
        ENDIF (original file not ended yet)
    ELSE
        WRITE character-in to output file
    ENDIF (character is EOF)
    READ next character from input file
    EXIT
    
```

### EOJ ROUTINE

```

CLOSE input file
CLOSE output file
EXIT
    
```

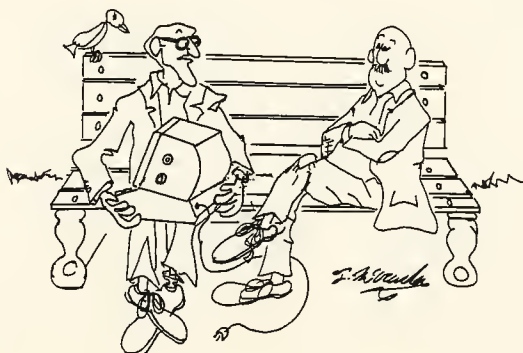
Most people who actually do design a program before coding it come to the same conclusion: "The program practically writes itself." You'll be really surprised how easy it is to write a significant program that works right the first time. And you'll be pleased that your logic highlighted potential problems in the design stage so that you were able to avoid them.

Don't be put off by what seems to be an extra job to do before you can start writing your programs. Too many people don't have the time, it seems, to do the job right in the first place, but they seem to have plenty of time to do it over again and again, until it's finally right.



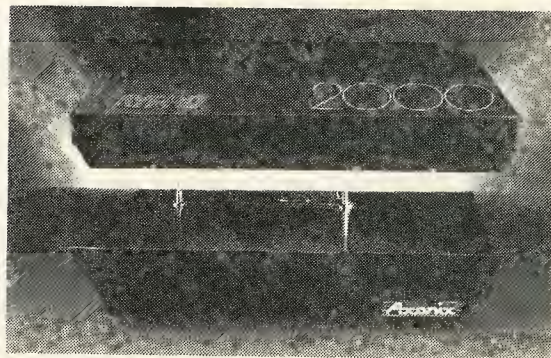
Like any other human undertaking, there's a learning curve associated with structured program design. You may only be able to cut your program development time in half in the beginning, but your skills are sure to improve with practice. **f**

*Jerry Houston teaches programming, applications, and other related topics at three colleges, and writes for several computer publications.*



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# Beginner's Luck

by William Murdick and Tyra Braden

Minimum MailMerge

**W**e're going to teach you a simple MailMerge procedure that will allow you to type a letter once and then print it out numerous times, each time addressed to a different person.

You will also be able to automatically print out envelopes or mailing labels with the same set of names and addresses that appear on the letters as part of the procedure. You will, of course, have to type in the names and addresses once, but forever after you will be able to send new letters and envelopes to the same group without tedious retyping.

Though MailMerge is a powerful, flexible, easy-to-learn program, and we encourage you to explore it thoroughly, the "minimum" capability described here may be all you'll ever need.

## Entering names and addresses

To send the same letter to a group of people, you will first create a "data file" consisting of nothing more than the names and addresses of the people you wish to send your letter to. In the practice examples we'll give you, we'll pretend you're sending out a form letter to the members of your bowling league. To create your practice data file, follow these steps:

**Step 1.** For convenience, we will assume you are using a two-drive Kaypro. Place a WordStar disk containing MailMerge in drive A and put a document disk in drive B and make drive B the logged drive.

Open a non-document file by entering the N option from the opening menu. Call the non-document MEMBERS.BWL. (This will be a list of the members of your bowling league.)

**Step 2.** Beginning in column 1, line 1, enter the members' names and addresses by following the model below. Each name and address must occupy only one line. When you are in the non-document mode, there is no word wrap, so just

keep typing until you have finished the name and address, and then hit RETURN to start the next one. Don't worry about going off the screen to the right.

The carriage return signals to MailMerge that you have finished the entry, so be sure to hit RETURN after the last name and address on the list. Unless you are going to type in the model for practice, you should probably read the "EXPLANATION" below it before attempting a list of your own. Here is the model:

Ms.,Sue,Park,"Happy Herbs, Inc.",11 Jay Street,Suite 2,"Roscoe, PA 15419"  
Dr.,April,Fiorentino,,672 Old Bridge Street,,"Brownsville, PA 15417"

**EXPLANATION:** Each part of an entry is separated from the others by commas. All entries—each name and address—must have the same number of parts; therefore, if one entry has fewer parts than the others (no apartment number, for example), you must indicate the missing part by typing an extra comma. In the model above, for example, the second entry does not have a workplace nor an apartment/suite number; note, therefore, the extra commas.

The particular elements in the model are: title, first name, last name, workplace, street, apartment or suite or P.O. box, and city/state/zip. When an element has a natural comma in it—such as "Happy Herbs, Inc." or "Roscoe, PA"—quotation marks must be placed around it; otherwise MailMerge would think that the element ended where the comma appeared.

**Step 3.** Having written your data file of members' names and addresses, and having hit RETURN after the last one, save your non-document file and return to the opening menu.

**Step 4.** Now we need a form letter "shell." Use D to open a document file called FORM-LET.BWL (form letter for bowling league).

**Step 5.** At the top of your document, type in the following dot commands, making sure they all begin

in the first column:

```
.OP  
.DF MEMBERS.BWL  
.RV T, FN, LN, WRK, ST, APT, CITY
```

**EXPLANATION:** The .OP turns off automatic page numbering. The .DF line identifies the list of names you want MailMerge to use for this letter by naming the non-document data file. The .RV line establishes "variable names" for each element in the addresses in your data file. For example, T will stand

for the very first element, the title (Mr., Ms., Dr., etc.). The variable name WRK will stand for the fourth element you typed in for each entry, the organization or workplace (Happy Herbs, Inc., for instance). As you will see in a moment, these variable names are then placed in appropriate places in your form letter, and MailMerge will eventually replace the variable names with the specific information from your data file.

**Step 6.** Since all of the above are dot commands, the first line below them should be treated as the first line of your business letter. Type in your return address as you normally would. If you normally begin it in column 33, for example, then do so here.

**Step 7.** Leave a blank line below your return address and enter the following, beginning in the first column:

```
&T/O& &FN/O& &LN/O&  
&WRK/O&  
&ST/O&  
&APT/O&  
&CITY/O&
```

Dear &T/O& &LN/O&:

**EXPLANATION:** The ampersand (&) warns MailMerge of the beginning and end of a variable name; it allows MailMerge to distinguish



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between the word "city" as it normally appears in your text and the word "CITY" when it is meant as the variable name for CITY/STATE/ZIP in an address. The slash followed by the letter O tells MailMerge to omit this variable if nothing has been entered for it. In other words, if no apartment number has been entered for an address, MailMerge will ignore the line or space taken up by "&APT/O&" in your document.

**Step 8.** Never mind the content of your letter right now. We are setting up a shell that can be used again and again to send many letters to this group. Skip a few lines and type in your closing just as you would in a normal business letter. If you usually begin the closing with "Sincerely yours" in column 33, then do so here. After the last line in your closing (probably your own name), hit RETURN and type .PA and a RETURN to force a page break. Then save the document.

**Step 9.** A reminder: we have prepared two things, a list of names and addresses called MEMBERS.BWL and a shell for a letter called FORM-LET.BWL.

Let's suppose you wish to send a letter to all members of the bowling league concerning the annual party. Open a document file called PARTY.LET.

**Step 10.** Having obtained an empty screen, type ^**KR** followed by **FORM-LET.BWL** and a carriage return to cause your form letter shell to appear on the screen.

**Step 11.** Enter the date below your return address, type in the body of the letter below the salutation, and save the document. This is all you will ever have to do from now on to send a letter to this particular group.

**Step 12.** From WordStar's opening menu, print PARTY.LET by typing **M** followed by **PARTY.LET** followed by **ESC**. MailMerge will print a version of the letter for each name in your MEMBERS.BWL non-document file.

Some warnings: Be sure to type **M** and not **P** to start the printing process. Also, if you have a single-sheet feed printer that needs to be told to pause between pages for paper change, then do not hit **ESC**; hit **RETURN** to get at the pause option on the print menu.

### *Printing single-row mailing labels*

Once you have produced the form letters to be sent to your group, you now need to produce either envelopes or mailing labels for the same group. In both cases you will make use of the MEMBERS.BWL data file. You should use mailing labels if you have a tractor-feed printer. If your printer is friction feed, skip this part and begin again with the next section on printing envelopes.

commands set the top and bottom margins to zero. The .PL 6 creates a page length of six lines. It is absolutely essential that there be six lines after the line that begins with .RV—no less and no more. If you have fewer than six lines, put in one or more blank lines using carriage returns between the .RV line and the first line of your address. In our example above, the ^PA (alternate pitch) line and the .PA line combine with the four address lines to create six lines.

The .PO 1 tells MailMerge to start printing only one character in from the left edge of your label. You can print about 40 characters for each line without running off the edge of the label.

Save the document file. As with the other MailMerge instructions,

---

## *To print MailMerge programs use M rather than P from the WordStar menu.*

---

To set up single-row mailing labels, open a document file called LABELS.BWL and type in the following MailMerge instructions, hitting **RETURN** after each line, including the last one. We're using the command ^PA to represent whatever command your printer responds to in order to print 12 characters per inch.

```
.MT 0
.MB 0
.PL 6
.PO 1
.DF MEMBERS.BWL
.RV T, FN, LN, WRK, ST, APT, CITY
^PA
&T/O& &FN/O& &LN/O&
&WRK/O&
&ST/O& &APT/O&
&CITY/O&
.PA
```

EXPLANATION: The .MT and .MB

print LABELS.BWL using **M** rather than **P** from WordStar's opening menu, followed by **ESC** (you do not need to tell MailMerge to "pause for paper change"). To use the above MailMerge "program," purchase 3 1/2-inch x 15/16-inch single-row mailing labels. When inserting labels into the printer, remember that they need to be adjusted to your own particular printer in order to get the addresses to start at the right spot. Experiment.

### *Printing envelopes*

Open a document file (with **D**) called ENVELOPE.BWL and type in the instructions below. Where it says "<RET>", hit **RETURN** to create blank lines, and put in your own address where indicated.

```
.OP
.PL 15
.PF off
```



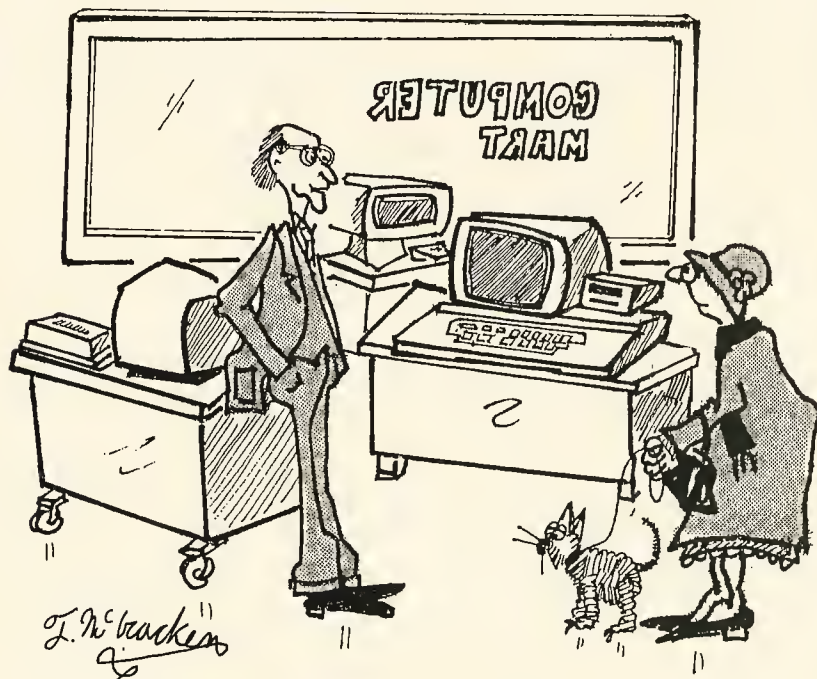
.MT 0  
 .MB 0  
 .PO 2  
 (your name)  
 (your street address)  
 (your city and state and zip)  
 <RET>  
 <RET>  
 .PO 30  
 .DF MEMBERS.BWL  
 .RV T,FN,LN,WRK,ST,APT,CITY  
 &T/O& &FN/O& LN/O&  
 &WRK/O&  
 &ST/O& &APT/O&  
 &CITY/O&  
 .PA

EXPLANATION: The .PF turns off word wrap and other page formatting features of WordStar; with word wrap on, certain very long address lines might be awkwardly wrapped around and turned into two lines. The .MT command sets the top margin to zero lines. The .PO commands determine how far from the left edge of the envelope MailMerge will begin to print.

As with all MailMerge programs, begin printing by typing M rather than P. Enter ENVELOPE.BWL as the name of the file to "merge," and then hit RETURN to obtain the option for print pause between pages. After one envelope prints, put in another and hit P for "Continue Print."

That's all there is to it. Practice with the models we have provided, and you should find mass mailings a snap. Now that you're familiar with the way MailMerge operates, you can go on to more complex projects.

William Murdick is an English professor at the California University of Pennsylvania, and he runs a word processing lab on campus. Tyra Braden is an award-winning journalism student who has written for several Pennsylvania newspapers and journals and is now an intern at Associated Press.



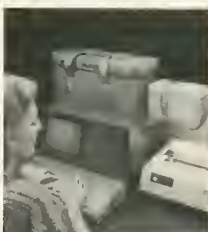
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by Tom Enright

A look at data types

**P**ROFILES is currently running a series of articles on programming. My subject this month—data types—meshes with this series. This column is for those of you who are intermediate-level computer users, but who may be new to the art of programming.

Understanding data types will allow you to choose the one most appropriate for the task at hand. The net result will be programs that use less memory for data storage and run faster and more efficiently.

There are two classes of data—numeric and character—and there are three basic data types within the two classes: integer, real, and string.

The integer and real data types comprise the numeric class; the character class contains the string data type.

We will look at each data type separately to see what it is composed of and when to use it, and we will look at examples of how certain languages differ in their handling of particular data types.

## Integers

Integers are whole numbers. They can be positive or negative, but they can have no fractional part. The number 1 is an integer; 1.2 is not. Integers cannot have anything, not even zeros, to the right of the decimal point.

It is safe to say that integers normally use the least amount of memory, and that math statements using only integers run the fastest. Since integers use the least amount of memory, the computer has fewer bytes to manipulate.

All high-level languages place limitations on the range of integer values they can handle. Typically an integer can have a value from -32,768 to 32,767. The reason for this limitation is that most languages store integer values as two bytes, and there is a total of 16 bits in two bytes of information. Only 15 of the 16 available bits are used for

the number itself. The highest number expressible in 15 bits is 32,767; the 16th bit indicates whether the number is positive or negative and allows the maximum negative value to be one larger than the maximum positive.

Some languages require that variable names reflect the type of data they refer to. BASIC, for example, requires that the last character of your variable name indicate what type of variable it is. Both MBASIC and GW-BASIC use the percent sign (%) to indicate an integer variable. Thus, NUM% would be an integer variable, but NUM would not. In some other languages, such as Pascal, variables are declared to be a certain type before they are used. There is nothing inherent in the variable name to indicate its type in languages such as Pascal or C.

## Real numbers

Sometimes you need more precision than integers can provide—amounts of money, for example, must be expressed in decimal values. In such cases, the data type required is real numbers.

More CPU instructions are also required to perform math operations on real numbers than on integers. For those reasons, you should not declare a variable to be a real number unless you need to assign fractional values to it.

High-level languages differ in the amount of memory used to store real numbers. For consistency, real numbers are stored in scientific notation format—237.5, for example, is written as 2.375 X 10<sup>2</sup> (two point three seven five times ten to the second power). The power that ten is raised to indicates how many places you move the decimal point to get a normal decimal number. When the exponent is positive, move the decimal point to the right. If it is negative, the decimal point is moved to the left.

Languages differ in the number of digits they store for the mantissa (the part of the number that contains the decimal point) of real numbers. The only consistency is that real numbers are stored as a mantissa and its associated exponent.

Some languages offer more than one type of real number. BASIC, for

---

*High-level languages  
differ in the amount  
of memory used to  
store real numbers.*

---

Real numbers include whole numbers and all the fractional values between whole numbers. Both 1.5 and 1.0 are real numbers. The latter is a real number *because it has room for a fractional value*, not because it currently has one. If you initialize a variable with the value of 1.0, the fractional part of its value is currently zero, but that can change later in your program.

Due to the greater memory required by real numbers, math operations execute more slowly when operating on real numbers.

example, has what it calls “single-precision” and “double-precision” real numbers. In BASIC, a single-precision number requires four bytes of memory, and a double-precision number needs eight bytes of memory for storage.

When used as variables, single-precision real numbers have seven or fewer digits in the mantissa and an exponent ranging from positive to negative 38. A single-precision variable is indicated by an exclamation point (NUM!) at the end of the variable name. Also, if no indi-

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cator is appended to the variable name (NUM) it defaults to a single-precision real number.

Double-precision variables have eight or more digits and the same exponent range as single-precision variables. They are indicated by a number sign at the end of the variable name (NUM#).

Other languages, such as Turbo Pascal, have only one type of real number. Turbo Pascal has 11-digit real numbers with an exponent range of positive to negative 38. In standard Turbo Pascal (not the 8087 or Binary Coded Decimal versions) a real number uses six bytes of memory.

Still other languages have more variation in the format and storage requirements for real numbers. The exact format and memory requirement depends on precisely which language you are using, but real numbers always require more storage space than integers, and it takes a computer longer to perform mathematical operations with real numbers than with integers.

### Strings

Strings are combinations of letters, numbers, and punctuation, and they usually make up names, addresses, and prompts displayed on the screen. They are generally the most cumbersome data type to manipulate.

Since computers store *everything* as numbers, some method is needed to distinguish printable characters—strings—from numbers used in calculations. The method adopted by the computer industry is the American Standard Code for Information Interchange (ASCII).

This standard assigns a numeric code to each printable character and the control signals needed in basic telecommunications. One thing to remember about ASCII is that the number three and the character symbol "3" are not the same. The number three is stored in memory as a binary 3 (0000-

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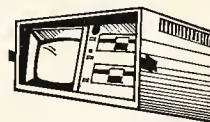
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## Technical Forum

0011) and the character "3" as a binary 51 (00110011).

So, a string is a series of ASCII characters that represent words, numbers, or sentences. Most languages place an upper limit, normally about 255 characters, on the length of a string. The amount of storage required for a string varies with the length of that string. There is some overhead required—usually from one to three bytes for storing the length of the string or a termination character at the end of the string, depending on the language—in addition to the number of characters in the string.

In BASIC a string variable always ends with a dollar sign (\$). So if you see a variable called NAME\$ in a BASIC program, you know that it contains printable characters.

Some languages, like C, don't have a string data type. Instead, the programmer is forced to work with groups of characters, which are called arrays. These languages are powerful enough in other areas that experienced programmers are willing to give up strings for other features not found in Pascal or BASIC. But most of us will be working with languages such as BASIC or Turbo Pascal, which do allow strings and are rich in statements to manipulate them.

### Conclusions

A knowledge of how programming languages store the different data types lets you plan more efficient programs. Integers should be used wherever possible to conserve memory and speed up program execution. Real numbers should be reserved for those variables that need to have fractional values. Strings are useful for names, addresses, and screen prompts, but they take up as much room as real numbers, or even more. Using the correct data type for variables makes a real difference in the speed and memory requirements of your programs.

Enter the following two BASIC




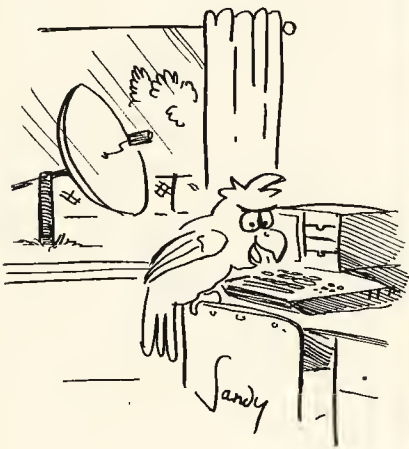
programs (under DOS or CP/M) and time their execution.

```
10 A% = 2: B% = 3
20 C% = 4: D% = 0
30 FOR X% = 1 TO 5000
40   D% = (A% * B%) / C%
50 NEXT X%
60 PRINT CHR$(7)
```

```
10 A# = 2.3456: B# = 3.4567
20 C# = 4.5678: D# = 0.0
30 FOR X = 1 TO 5000
40   D# = (A# * B#) / C#
50 NEXT X
60 PRINT CHR$(7)
```

In the first example, all numeric variables are integers. In the second program the loop control variable (X) is a single-precision real number, and all other variables are double-precision reals.

These test programs are somewhat trivial, but you will see a difference in execution times between the two. It isn't a tremendous difference—these are not extensive programs—but the time savings seen here will be multiplied many times in the more extensive loops found in actual programs. An informed choice of data types will always result in a faster, more efficient program. 



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# First Impressions

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by Tom Enright

CP/M under DOS and a new game

**T**his month we'll look at two versions of a Z-80 co-processor board and one very addictive game for DOS machines.

The Z-80 board is Blue Thunder, from Decmation Incorporated. One version we'll look at is Decmation's own. The second is from Micro Interfaces Corporation; it teams Micro Interfaces' RUN/CPM software with the Decmation Z-80 board. Both allow you to run CP/M 80 on a DOS computer.

## **Decmation Z-80 Board**

The Blue Thunder Z-80 board has a 5 MHz Z-80B, 64K of RAM, and support chips. The Z-80 board has no external connections except the IBM system bus. Therefore, the DOS host system provides video, disk storage, printer, and serial ports for use by the CP/M system.

The Blue Thunder board and software work under DOS 2.0 (or newer) and provide a true CP/M 80 system. Installing the board consists of plugging it into an unused expansion slot—there are no hardware options or dip switches to be set on the board. Installing the software is almost as simple. The distribution disk comes with two batch files (INSTALLF.BAT for floppy drives and INSTALLH.BAT for hard drives) that complete the installation process and copy all files to a working disk.

Included on the distribution disk are programs to start the CP/M system and replacements for some standard CP/M commands. The SAVE command is implemented as an external program instead of an internal command. Also included are replacements for the SUBMIT and ASM programs and a directory program. Other files are for altering terminal emulation, reading and formatting Kaypro CP/M disks, and utilities specific to running CP/M 80 on a DOS computer.

When CP/M is active you are totally isolated from DOS. The file-type of CP/M programs must be

changed from COM to CPM before they will work on this system. Error messages are the traditional, cryptic Digital Research messages you know and love. Typing a DOS command while in CP/M 80 will get you only a series of question marks in reply. However, you can execute DOS commands and programs by prefacing them with a comma. To exit from CP/M to DOS, you simply press RETURN on a blank line.

Performance of CP/M programs is about equal to what you would get on a 4MHz Z-80 system. This is visibly faster than software emulations and some NEC V-20 systems. The exception is screen I/O, which is noticeably slower than on an eight-bit Kaypro. Screen I/O is limited by the DOS host machine, not the Blue Thunder board or its software. This is the most impressive "CP/M on a DOS machine" system that I have seen to date.

Especially impressive is the fact that an unaltered copy of Kaypro CP/M WordStar functioned without a hitch. It's impressive because the WordStar distributed by Kaypro is patched to alter a translation table in CP/M's BIOS. (See "Technical Forum," June 1986). No other similar system that I've seen is able to do that. All the others require that the Kaypro-specific patch to WordStar be removed before the program will run properly. Add to that the fact that this is a true Z-80 system that runs programs written specifically for the Z-80, and Blue Thunder is a real winner.

The documentation from Decmation is intended for advanced CP/M users. It provides no hand-holding for novices. Decmation's instruction manual is a reference guide, not a tutorial. This format lets Decmation pack the document with programming data and patch points invaluable to advanced users and programmers.

\$199. Decmation Inc., 2065 Martin Ave., Suite 110, Santa Clara, CA 95050; (408) 980-1678

## **RUN/CPM, Z-80 version**

In the August 1986 "First Impressions," I looked at the version of RUN/CPM that uses the NEC V-20 processor. The version I'll describe here uses the Decmation Blue Thunder Z-80 co-processor board instead.

The software hasn't changed much—the same menu system is still in effect, and there's still the curious delay while each command is echoed one line below the line you typed it on. The comments I made in August still apply—with the exception of the statement about limitation to 8080 programs.

The Z-80 version allows you to run a wider variety of CP/M 80 software. And RUN/CPM version 7.3 now supports up to 175 foreign disk formats. In terms of performance, the RUN/CPM system is similar to the Decmation system. The only exception is that while an unaltered copy of WordStar functioned on the Decmation system, it would not work under RUN/CPM.

Other than that, the main difference between Decmation's software and Micro Interfaces' RUN/CPM is the documentation. Micro Interfaces has improved its documentation since August. Some programming information is now included, though not nearly as much as Decmation includes. RUN/CPM's documentation is much better suited to the casual user. It has more tutorials and step-by-step procedures for less-than-expert users than Decmation provides.

Since both the RUN/CPM system and the Decmation product are based on the same board, choosing one is simply a matter of preference. The Decmation product is better suited to advanced users and programmers. RUN/CPM will be better received by casual users and those who are not expert with CP/M 80 systems.

\$199.95. Micro Interfaces Corporation, 6824 N.W. 169th St., Miami, FL 33015; (800) 637-7226.



### "Conjecture"

"Conjecture" is very similar to the television show "Wheel of Fortune." This game requires a DOS computer with 128K or more of RAM running under DOS 2.0 or newer.

"Conjecture" is a game of knowledge and spelling skills. The object is to discover, by guessing individual consonants, a specific phrase, person, place, or thing. The puzzle is represented on your screen by a blank box for each letter. As each letter is guessed, a young lady saunters across your screen to reveal the location of each correct letter.

Up to five individuals, or five teams, may play at one time. Each time a new round begins, one player gets to select the category for that round. Then players take turns trying to guess consonants in the answer. Players only get to keep the money they accumulate if they win the round.

The process is easier to understand by simply watching "Wheel of Fortune" on television—trying to describe it makes it sound silly or overly complex. The game is addictive even for someone who doesn't watch the game show. Each category has more than 200 entries, so repetition of a phrase or name is not a problem. You can also add new entries to the puzzle file or create new puzzle files. This lets you customize the game to set learning goals for your children or create special editions of the game for particular groups of people.

"Conjecture" is an exceptional game. It makes good use of graphics, like an arcade game, and is still mentally stimulating and challenging. Since you enter what the winning score will be at the start of each game, your sessions can be as long or short as you wish. Game software of this caliber is a welcome addition to anyone's library.

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# New Products

edited by Suzanne Kesling

*The following new product listings are not reviews and should not be considered endorsements of tested products. To be considered for publication in New Products, press releases should be sent to Suzanne Kesling, "New Products" editor, c/o PROFILES Magazine, 533 Stevens Ave., Solana Beach, CA 92075. Releases must state prices and on which Kaypro models products run. Include black and white photos if available.*

## For the teachers

EXAMFILE is a multiple-choice test program for teachers. It can save you time writing, editing, and sorting examinations.

While you're preparing the test, questions are automatically formatted into one or two columns. The program allows for 500 questions per test and up to six choices per question, and questions are never split between pages or columns.

EXAMFILE supports underlining, italics, super- and subscript, and boldface. The program can scramble test questions to produce additional versions of a test.

\$39.95. Kaypro CP/M computers. Trudart Development, 1301 Walnut St., Grand Forks, ND 58201; (701) 777-4418.

## Go out for a pass

FOOTBALL is a one- or two-person game in which players play offense against the computer-controlled defense. You can run, pass, punt, or even try for a field goal.

The game plays four quarters and uses a timer to keep track of how much time is left in the current quarter. The scoreboard displays the current ball position, down, yards-to-go for a first down, and the score.

FOOTBALL includes cheering sounds from the fans and a half-time show. The game has nine skill levels to accommodate novice through experienced players.

\$24.95. All Kaypro computers. Generic Computer Products, Inc., P.O. Box 790, Marquette, MI 49855; (906) 249-9801.

## Saving energy and money

The Utility Bill Accounting System (UBAS) and Electric Utility Rate Analysis (EURA) are two new programs that allow managers of manufacturing plants, office buildings, college campuses, school systems, restaurant chains, and shopping centers to reduce utility bills and analyze rate structures.

UBAS tracks energy data for utility costs for single or multiple meters and for buildings or manufacturing sites. It tracks both natural gas and electricity bills and presents the data in a variety of forms so that a user can best identify sources of energy waste.

The program generates reports summarizing energy costs in cost or watts per square foot, consumption per product manufactured, occupant use, or MMBTUs.

UBAS will also recalculate essential parts of a utility bill to identify possible overcharges and to verify correct data entry.

EURA analyzes utility rate structures so users can select the most economical rate for current operating conditions. It compares rate options offered by a user's utility against the facility's actual or estimated consumption and demand figures and identifies the least-cost rate schedule for the facility.

UBAS, \$196; EURA, \$89. Kaypro DOS computers. General Energy Technologies, 250 E. 17th St., Costa Mesa, CA 92627; (714) 645-7733.

## A library of accounting tools

M·A·S 90, written in Business BASIC, is a seven-module library of accounting applications that includes General Ledger, Accounts Receivable, Accounts Payable, Payroll, Inventory Management, Sales Order Processing, and

Library Master.

Special features included in the various modules are custom financial reporting, invoice billing and statements, cash requirements forecasting, and multiple city/state taxation.



\$195 for Library Master, \$795 for each of the other modules. Kaypro DOS machines. State of the Art, Inc., 3191-C Airport Loop, Costa Mesa, CA 92626; (714) 850-0111.

## Keep a record

Home Insurance is a program that allows you to create and easily update a home inventory system. It allows up to 1,000 entries and can categorize them by owner, location, and item type.

The program records model numbers, serial numbers, item descriptions, dates of purchase, costs, and replacement values. With the proper information Home Insurance can adjust for inflation.

Inventories can be kept for multiple locations and persons and can be listed onscreen or with a printer.

\$34.95 plus \$2.95 for shipping and handling. All Kaypro computers. Nickelodeon Software, P.O. Box 974, Tualatin, OR 97062; (503) 692-3732.

## A third dimension

A new graphics program, 3DD, allows users to create images that appear three-dimensional. An extra feature allows stereographic imaging—the screen is split into a



left-eye view and a right-eye view, and with the supplied screen splitter and 3-D glasses, images appear almost real.

Users can create their own images or use the ten images supplied with the software. The user has complete control over such things as point of view, image translation, and rotation, and any image can be printed on a dot-matrix printer with a single-key command.

\$149. Kaypro CP/M computers with graphics ('84 series). Hawaii Mountain Works, P.O. Box 1573, Kamuela, HI 96743; (808) 855-4607.

### DOS functions made automatic

AutoDos is a RAM-resident program for execution of programs and DOS functions.

It displays a numbered menu of executable COM, EXE, and BAT files from the directory. Choose the number of the program that you would like to run and AutoDos does it for you. When you exit that program, AutoDos returns you to the main menu.

It also displays a numbered menu of DOS functions and commands. Choose a number and AutoDos will execute that function.

\$34.95. Kaypro DOS computers. The Software Company, P.O. Box 872687, Wasilla, AK 99687; (907) 745-6267.

### Long-distance interface

The new Fiber Optics Line Driver enables the use of Centronics parallel printers up to 3,000 feet away from the computer's parallel output port.

The interface can be extended via fiber optics cable, allowing this converter to transmit data at speeds of up to 110 kbps.

The line driver supports printer status and control signals and is ideal for use where EMI/RFI is a consideration.

\$347.50; fiber optic cable is available at \$100/100 ft., up to \$470/1,000 ft. Black Box Corporation, P.O. Box 12800, Pittsburgh, PA 15241; (412) 746-5500.

### Pay day

The Excalibur Plus Payroll system accommodates hourly, salaried, commissioned, contract, and tipped employees. It can calculate and track employer costs for state unemployment/state disability insurance, workers' compensation, and employee sick, vacation, and personal leave pay.

It handles unlimited deductions per employee and direct deposits (full or partial) and maintains savings plans.

Tip allocations for restaurants' federal reports and W-2 forms can all be figured by the program, and taxes can be calculated for all 50 states and Canada, Puerto Rico, and other areas around the world.

The system is designed for single or multiple users and may be used in network environments.

\$695. Kaypro DOS computers. Armor Systems Inc., 324 North Orlando Ave., Maitland, FL 32751; (305) 629-0753.

### Forth software

MasterForth is an implementation of the Forth programming language that provides a complete programming environment, including a macro-assembler and a full file interface.

Standard features include a string package, screen editor, and resident debugger. Programs can be optimized with an optional target compiler.

MasterForth matches the Forth-83 standard dialect that's described in *Mastering Forth* (Brady, 1984), which is included.

\$125 for MasterForth; \$495 for TAGS (MasterForth bundled with the compiler.) All Kaypro computers. MicroMotion, 8726 S. Sepulveda Blvd. #A171, Los Angeles, CA 90045; (213) 821-4340.

## Product Updates

Version 3 of the statistical package **SYSTAT** has been updated to include nonlinear estimation, repeated measures, and discriminant analysis. A SYSTAT Executive, which offers menu and batch execution of SYSTAT modules, is also included. SYSTAT, Inc., Evanston, IL □ A graphics system designed to assist chiropractors, **Spinal-Health Data**, has been updated to version 2.2. Along with increased speed, it now offers a simplified procedure for transferring information from the X-ray image to the computer. Health Data Development Corporation, Los Angeles, CA □ **FormTool** version 2.0 allows you to create, store and generate forms such as time sheets, expense reports, activity logs, etc. It now supports variable type sizes and eight different fonts. Bloc Development Corporation, Miami Beach, FL □ **EDIX** is a text-editor available for MS-DOS. Release 5 allows the user to execute any program or any system command without leaving the program. Emerging Technology, Boulder, CO □ Version 3 of the **Professional Energy Analyst** software package has been released. This package is for large energy users who are interested in monitoring or comparing energy usage and cost. Rays Energy Consultants, Springfield, IL □ Updates have been made to the line of **KLEERTEX Keyboard Booklets**. Updated versions are dBASE III Plus; Lotus 1-2-3, version 2; Symphony, release 1.1; and WordPerfect 4.1. Creative Computer Products, San Diego, CA □ The telecommunications program in Touch has been updated and its name changed to **inTalk**. It includes a set of pre-written scripts to perform common functions on CompuServe and other popular information services. Palantir Software, Houston, TX

*Product Updates provides information about revisions of existing products. Users should contact the vendors for more complete information.*

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## Back Issues

Some back issues of *PROFILES* are still available. Highlights of recent issues are detailed below. We'll send you the desired issue(s) for \$4.00 each, including postage and handling. Enclose your name and address along with a check or money order payable to *PROFILES* and mail to:

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- Sorting algorithms

#### November '85

- dBASE general ledger
- Accounting software review

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- CD-ROMs: overview
- Business simulations

#### July '86 (3rd Anniversary)

- Idea processors for CP/M
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#### August '86

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- Multi-tasking software

#### September '86

- #1 in programming series
- Kaypro-turned-cash register

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- Relational data bases
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**HANDYMAN** Works with all Kaypro CP/M models!!!

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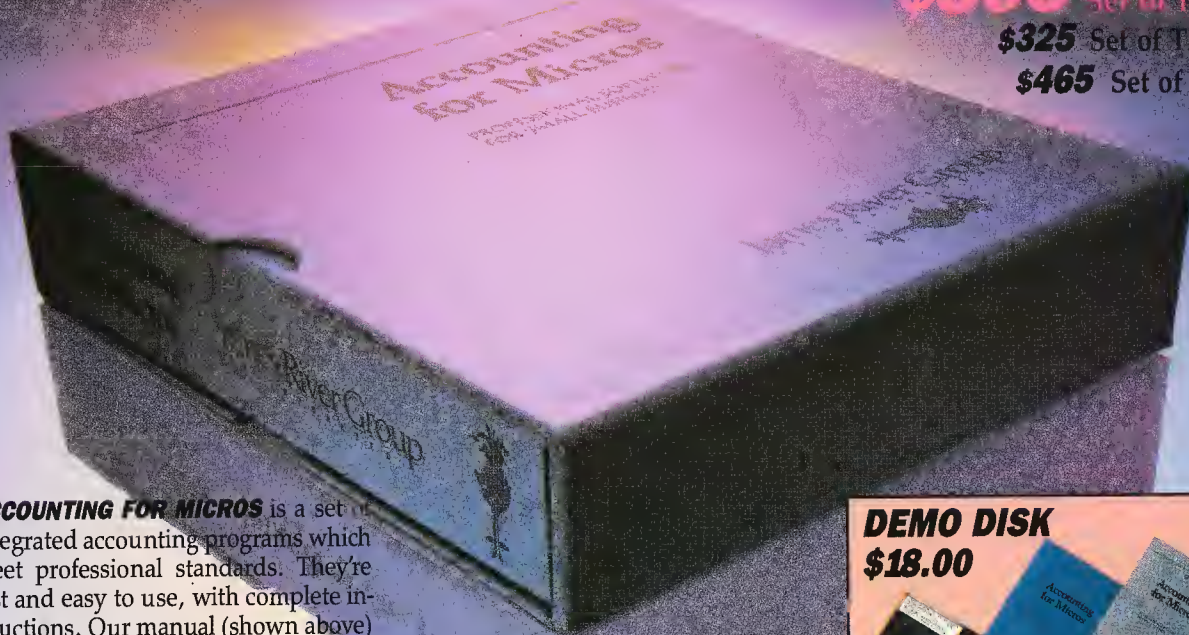
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